TUOLUMNE – STANISLAUS INTEGRATED REGIONAL WATER MANAGEMENT REGION

PROPOSITION 84 IMPLEMENTATION GRANT PROPOSAL ROUND 2

ATTACHMENT 3 – WORK PLAN

Integrated Regional Water Management Program
Applicant: Tuolumne County Resource Conservation District

ATTACHMENT 3 – WORK PLAN

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I. Introduction

Goals and Objectives:

The purpose of this Proposition 84 Integrated Regional Water Management (IRWM) Implementation Grant Proposal is to implement projects identified in the Tuolumne-Stanislaus Integrated Regional Water Management Plan (IRWM Plan).

The objectives of the Tuolumne-Stanislaus IRWM Plan are shown below in Table 3-1:

TABLE 3-1 Tuolumne-Stanislaus IRWM Plan Objectives

A	Improve water supply infrastructure within DAC and urban areas that have declining water quantity/quality or other water system reliability issues (e.g. fireflow, contamination, etc.). Priority: High
B	Reduce contamination in groundwater, natural streams, raw water conveyance systems, and reservoirs from the negative impacts of stormwater, urban runoff, and nuisance water. Priority: High
C	Improve infrastructure to meet wastewater discharge/disposal requirements and deliver drinking water that meets drinking water standards and customer expectations. Priority: High
D	Improve watershed health in support of increased water yield and ecosystem function. Priority: High
E	Improve the condition and ecosystem function of meadows. Priority: Medium
F	Assist in the protection and recovery of sensitive special status, threatened, culturally sensitive, and endangered native aquatic and other water dependent species in the region. Priority: Medium
G	Identify, preserve, and promote the regeneration and restoration of wetlands, vernal pools, and native plant riparian habitat; reduce invasive species. Priority: Medium
H	Reduce the risk of localized flooding in urban areas. Priority: Medium
I	Increase renewable energy production for water management. Priority: Medium
J	Improve energy efficiency of water and wastewater system infrastructure. Priority: Medium
K	Improve efficiency and reliability of man-made water conveyance systems. Priority: High
L	Increase current and future water use efficiency (WUE) by both municipal (residential and commercial) and agricultural end users. Priority: Medium
M	Develop sufficient reliable and affordable water supplies to meet regional demands of existing and projected water supply needs under a multi-year drought now and into the future. Priority: High
N	Improve integrated land use and natural resource planning to support watershed management actions that restore, sustain and enhance watershed functions. Priority :High

The goal of this Proposal is to implement projects that fulfill the above objectives.

Purpose and Need:

Within the Tuolumne Stanislaus IRWM Region are the headwaters for both the Tuolumne and Stanislaus Rivers. In addition to supplying municipal, agricultural and energy generation to downstream users, they serve as the largest tributaries to the San Joaquin River, and therefore play a significant role in the San Francisco Bay-Delta. Lastly, these rivers have intrinsic ecosystem values that reach well beyond the regions' borders. Together, these two watersheds provide both opportunities and challenges for integrated watershed management planning.

The suite of eight projects being presented for DWR's Proposition 84 Round 2 Implementation funding directly respond to the key resource issues, Disadvantaged Community (DAC) priorities, and water quality needs of the Tuolumne-Stanislaus IRWM, all while providing vast geographic coverage of the watersheds. This collective proposal also reflects the strong agreement of highly diverse interests which have come together to accomplish meaningful improvements in regional water quality and management.

The South Fork Stanislaus River, which serves as the primary domestic water supply source for the majority of water users in Tuolumne County, originates in the meadows of the Stanislaus National Forest. In this proposal, the Stanislaus National Forest has proposed the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project. This project will work to restore degraded wet meadows and stream zones, and reduce overall sedimentation and contaminated runoff into the river, which will benefit all downstream projects. The project would preserve rare fens and at-risk wetland habitat critical for ecosystem values of the affected national forest lands.

Downstream of Lyons Reservoir, water from the South Fork Stanislaus flows through a historic ditch system. One major ditch delivers water to Phoenix Lake, the most visible and important wetland area and water supply reservoir in the populated area of Tuolumne County. The Tuolumne Utilities District (TUD) seeks to reverse the dwindling storage capacity and declining water quality in this high priority water resource. Water from the reservoir serves half of all TUD customers, but sedimentation, pollution, and decreasing capacity are significant problems. TUD's Phoenix Lake Preservation and Restoration-Phase 2 project builds upon already funded/completed project baseline work to complete environmental compliance documentation, construction design plans, and community outreach.

In the immediate local watershed that drains into Phoenix Lake, small parcel landowners and subdivision residents often exacerbate erosion, sedimentation, pollution, and riparian habitat degradation due to a lack of awareness. The Tuolumne County Resource Conservation District (TCRCD) has crafted its Small Parcel Storm Water Pollution Prevention & Landowner Stewardship Program to raise awareness and to teach sustainable small property management practices that will reduce water quality impacts. The TCRCD program would also help pinpoint sources of pathogenic bacteria by building a stronger volunteer stream team program, publicizing data results, and demonstrating best management practices as "show me" examples for the watershed's community.

The Tuolumne River Trust has proposed the Tuolumne-Stanislaus Watershed Outreach and Stewardship Program, which is designed to coordinate outreach efforts between its organization, the Stanislaus National Forest, TCRCD, and TUD. Collectively these outreach measures will deliver a unified regional message about the importance of watershed health and water use efficiency. These efforts will provide citizens an opportunity to learn about watershed stewardship, and develop a

sense of ownership in the quality of local water resources through participation in volunteer workdays.

Several areas in the region share concerns over distinct threats of water contamination resulting from failing or insufficient water treatment infrastructure. While the cost of addressing these problems is in most cases prohibitive, the costs to human and ecosystem health will be much greater if these issues are not addressed. Changing climatic conditions and recent changes in regulatory standards have further emphasized the immediate need for corrective action.

To the south within the IRWM area, the Groveland Community Service District faces the potential failure of a major sewer lift pump in its aged wastewater system. The GCSD/BOF (LS#16) Water Quality Protection Project is urgently needed to prevent lift station failure, which could result in up to 10,000 gallons per day of effluent discharge into Rattlesnake Creek, which flows into Don Pedro Reservoir and is an important drinking water source for downstream users. Pump failure would also create a high financial burden on one of the region's most challenged Disadvantaged Communities -- the Big Oak Flat area.

In the northern portion of the IRWM area, the Murphys Sanitary District (MSD) Wastewater Treatment Facility Sprayfield Improvement Project would address insufficient wastewater storage and spray field capacity. MSD aims to construct a tertiary treatment facility to reduce potential groundwater contamination and to utilize recycled wastewater to provide for a range of beneficial uses. This highly needed project will reduce risk of contamination, increase benefits for agriculture and district customers, and contribute dollars towards expensive work that will aid a Disadvantaged Community.

The Calaveras County Water District (CCWD) has proposed the Douglas Flat/Vallecito Storage Pond Project, which will expand the storage capacity of a newly upgraded treatment facility to meet new 100 year storm event requirements. Expanding storage capacity of the facility will provide important surface and groundwater protection by allowing hundreds of homes currently using septic systems to connect to the treatment facility. Additionally, this expanded capacity will make Title-22 permits achievable, allowing the district to put treated wastewater to beneficial use for the first time. These steps for both CCWD and MSD represent important steps forward in the common T-S IRWM and statewide goals of increased water recycling and drought preparedness.

Of particular importance to the T-S IRWM is providing direct aid to DAC's. Though many of the projects listed above address DAC's, the Amador Tuolumne Community Action Agency (ATCAA) has proposed the Home-Level Water Conservation for the DAC Project, which directly addresses the water use in DAC's of Tuolumne and Calaveras County. This project will ensure that these communities have equitable access to water-saving devices, and education about water use efficiencies. This project provides the most direct DAC benefits, while also covering the geographic and political districts represented by the IRWM. The ATCAA framework will also provides the option of utilities, local governments, or nonprofits to build upon the success of ATCAA's in-home assistance so that future efforts could expand even further. The ATCAA project also represents the IRWM's commitment to improve existing water use practices in the region with the highest priority focused on those who can least afford to pay for upgrades.

While each of these projects has high merit, we hope that this proposal taken collectively provides a compelling argument for the collaborative management and implementation of water related restoration,

infrastructure, and outreach activities in the T-S IRWM region.

Project List:

Descriptions of the eight projects that comprise this Proposal are provided in Table 3-2 and their locations shown on Figure 3-1. These projects are crucial to achieving the objectives of the Tuolumne-Stanislaus IRWM Plan. The projects are described in greater detail in Section II. Proposed Work Items.

Integrated Elements of Projects:

The projects in this Proposal address common regional issues related to the Tuolumne-Stanislaus IRWM Plan objectives, Program Preferences and Statewide Priorities. Individually and collectively, the projects offer multiple integrated benefits relative to water supply and infrastructure, water quality, water conservation and reuse, watershed rehabilitation and habitat improvement, and flood management. While some of the projects interface directly with one another, others are working toward complementary and mutual goals.

Several of the proposed projects are directly or indirectly related to the water supply infrastructure for Tuolumne County inclusive of DAC's within the region. For example, the Tuolumne Utilities District Phoenix Lake Reservoir project provides increased storage capacity in the primary water supply reservoir. The Tuolumne County Resource Conservation District's project will provide landowner education and on-the-ground storm water control and surface water quality enhancements for small acreage parcels within the upper Phoenix Lake watershed and others. Amador Tuolumne Action Agency's conservation program is focused specifically on DAC's within the region, many of which include the users of the water from Phoenix Lake. The Tuolumne River Trust's conservation program similarly focuses on end-users of the municipal water supply from the lake. Finally, the Stanislaus National Forest's meadow restoration will improve surface water quantity and quality entering the system from the South Fork Stanislaus River.

These projects singly and together work to meet several IRWM Plan objectives including: 1) Improve water supply infrastructure within DAC and urban areas that have declining water quantity/quality or other water system reliability issues (e.g. fireflow, contamination, etc.); (Objective A) 2) Reduce contamination in groundwater, natural streams, raw water conveyance systems, and reservoirs from the negative impacts of stormwater, urban runoff, and nuisance water; (Objective B) 3) Improve watershed health in support of increased water yield and ecosystem function; (Objective D) and 4) Increase current and future water use efficiency (WUE) by both municipal (residential and commercial) and agricultural end users (Objective L).

Similarly, by reconstructing Groveland Community Service District's lift station, installing Murphys Sanitary District spray field and expanding Calaveras County Water District wastewater pond, the proposed projects all work toward the common IRWM objective of improving infrastructure to meet wastewater discharge/disposal requirements for DAC's. They further complement each other and the other projects in this proposal on a regional basis by meeting Statewide Priorities of using and reusing water more efficiently and protecting surface and groundwater quality.

Detailed discussion of Integrated Elements of the Projects for each project in the Proposal can be found in the individual work plans in Section II.Proposed Work Items.

Regional Map:

Figure 3-1 provides a map showing the three Tuolumne-Stanislaus Region watersheds, as well as the eight projects in this Proposal.

Figure 3-2 shows the areas of DAC (Census Places and Census Tracts) within the region. Figure 3-3 identifies the Clean Water Act Section 303(d) Impaired Waterbodies within the region.

Completed Work:

The range of completed work for each project varies. All projects have been evaluated to establish feasibility and have been sufficiently developed to determine the tasks necessary to implement it (listed in the work plan), create a budget, and prepare a schedule.

Many of the projects have completed some or all of the necessary California Environmental Quality Act (CEQA) documents, land acquisition, permitting, and design. All of the projects are ready to proceed with the next steps when/if grant funding is awarded.

Detailed description of the completed work is included with the work plan for each project in Section II. Proposed Work Items.

Existing Data and Studies:

The range of existing data and studies for each project varies. Each project has been vetted to identify that existing data and studies support the goals and objectives of each project.

Detailed descriptions of project specific data and studies are included with the work plan for each project in Section II. Proposed Work Items.

Project Map:

Detailed individual Project Maps are included with each work plan in Section II. Proposed Work Items.

Project Timing and Phasing*:*

The Project Timing and Phasing for each project is included with the work plan for each project in Section II. Proposed Work Items, as well as in Attachment 5 - Schedule.

Work for each project is already underway and all of the projects are ready to proceed with the next steps when/if grant funding is awarded.

Most projects will be ready to bid or begin implementing shortly after anticipated funding award in October 2013. Construction of the GCSD lift station and MSD spray field will begin in early to mid 2014. The majority of projects in this Proposal will be completed in 2015 or 2016.

TABLE 3-2

Tuolumne-Stanislaus Integrated Regional Water Management Program
Proposition 84 Round 2 Implementation Grant Proposal

Implementation Project Proposals – March 29, 2013

Project No.	Implementing Agency/Entity	Project Amount	Project Title	Project Summary	Design Status (% Complete)
2	Murphys Sanitary District	$ 285,000	Wastewater Treatment Facilities Improvement Project	This MSD facility improvement project corrects long standing treatment and disposal insufficiencies and lightens the load on regional water supplies by providing recycled water suitable for unrestricted re-use.	
9	USDA Forest Service, Stanislaus National Forest	$ 350,000	Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project	This project contributes to broad scale ecosystem restoration in the Upper South Fork Stanislaus River Watershed through restoration of degraded wet meadows and repair of road culverts that are contributing sediment to aquatic ecosystems. Watershed values will be enhanced and protected through gains in water quality, water storage, flood attenuation, wildlife habitat, and recreational opportunities.	
16	Tuolumne County Resource Conservation District	$ 255,000	Small Parcel Storm Water Pollution Prevention and Landowner Stewardship Program	TCRCD will develop a small acreage landowner stewardship program to achieve reductions in nutrient, sediment and pathogen pollution to surface and ground waters in the Tuolumne and Stanislaus River watersheds through education, outreach and implementation of efficient and effective BMPs on small acreage livestock facilities to manage drainage, mud, vegetation and manure. TCRCD will also provide an efficient regional framework for grant management that supports and meets the objectives and requirements of the state of California and the Tuolumne-Stanislaus IRWM Region and provide centralized contract administration with uniform accounting, reporting, and compliance protocols for multiple IRWM projects.**	5%
17	Amador Tuolumne Community Action Agency	$ 200,000	Home-Level Water Conservation for the DAC	ATCAA will provide a suite of the most cost-effective consumer-level water conservation measures, with the twin goals of stabilizing cost by reducing usage and reducing the pressure on water districts to develop additional water supply. Use ATCAA's existing infrastructure and personnel to assess water usage and waste in low-income households, then install the appropriate conservation measures.	
18	Tuolumne Utilities District	$ 1,700,000	Phoenix Lake Preservation and Restoration - Phase 2	This project provides TUD with a roadmap for restoring and preserving the critical functions and values of Phoenix Lake – one of the primary domestic water supply sources for Tuolumne County. The project will develop complete engineering plans for the lake improvements including; dredging plans, sediment forebay design, and wetland enhancement design; complete the necessary environmental review (CEQA and NEPA); and obtain the required regulatory permits and compliance for Phase 3, lake improvement implementation.	
22	Tuolumne River Trust	$ 50,000	Watershed Outreach and Stewardship	TRT's Watershed Outreach and Stewardship will focus on spreading the message about watershed health and water use efficiency while involving the community in watershed stewardship through volunteer workday activities. Through this project TRT will implement a public outreach and watershed stewardship program to engage the public in wise water use and watershed stewardship. We will do this through a public education campaign that includes the internet and social media as well as presentations, news articles, and events.	
25	Calaveras County Water District	$ 200,000	Douglas Flat/Vallecito Storage Ponds	The CCWD Douglas Flat/Vallecito Storage Pond Project will address insufficient wastewater storage capacity in order to reduce potential groundwater contamination and utilize recycled wastewater for agricultural and other beneficial uses in this DAC area. The project will include developing full engineering plans; complete environmental review; and obtain the required regulatory permits and compliance for construction.	
27	Groveland Community Services District	$ 600,000	GCSD/Big Oak Flat (Lift Station #16) Water Quality Protection Project	GCSD's reconstruction of the Big Oak Flat Sewer Lift Station will increase raw sewage storage 600% and dramatically reduce the potential of a spill into Rattlesnake Creek and Don Pedro Reservoir.	50%
	TOTAL	**$ 3,640,000**			

Figure 3-1

Tuolumne Stanislaus IRWM Region

Watersheds and Project Locations

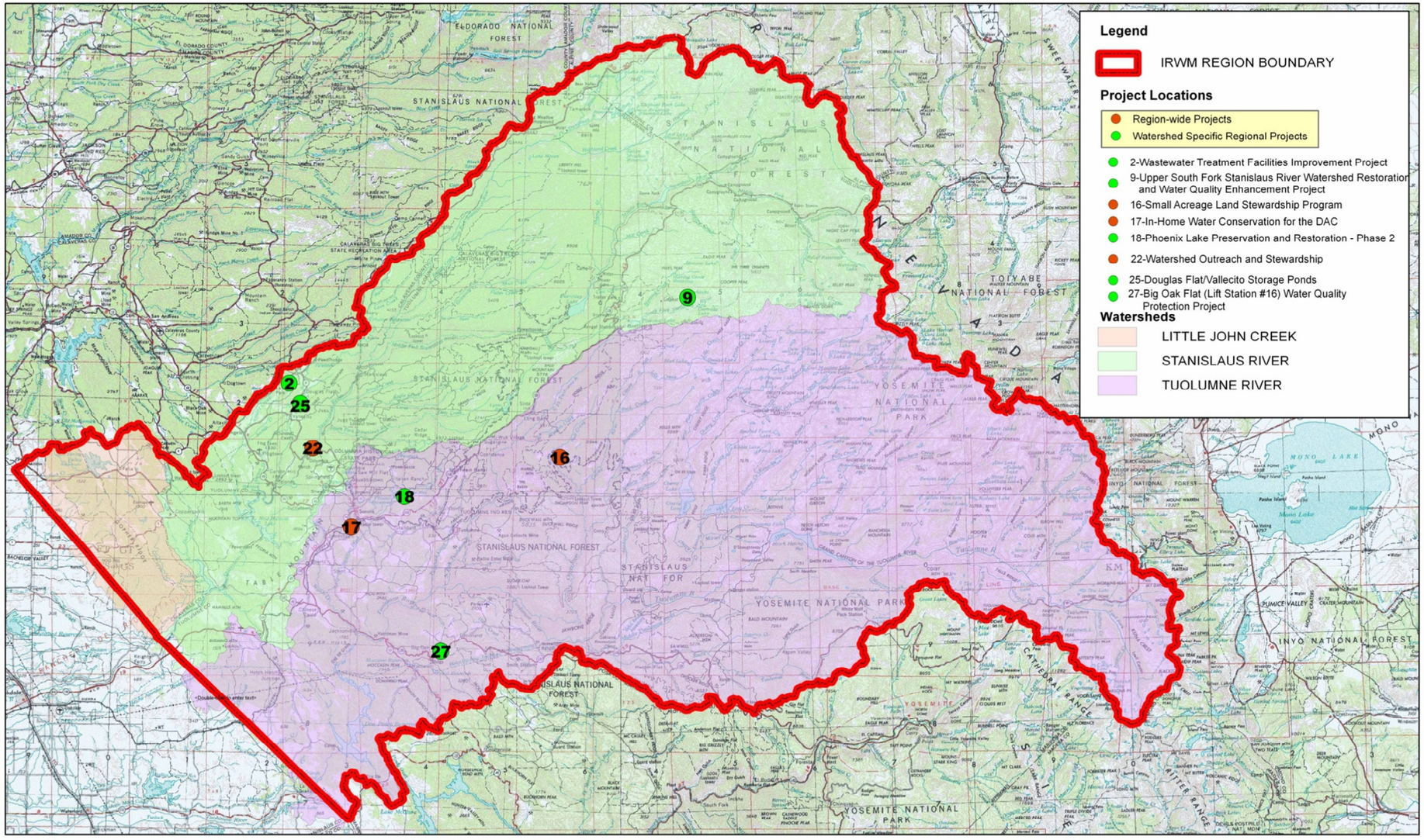
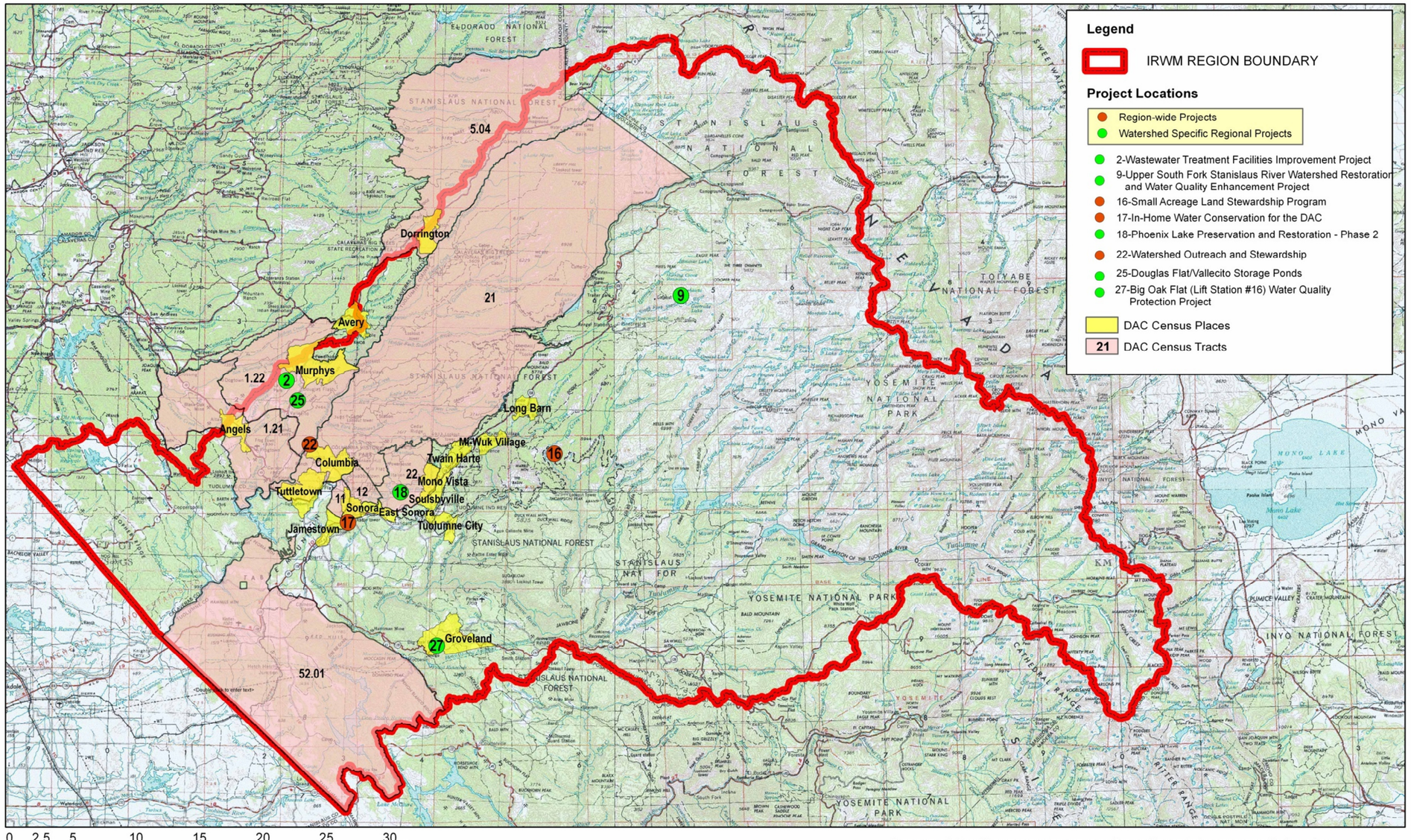


Figure 3-2

Tuolumne Stanislaus IRWM Region

DAC Census Tracts and Places



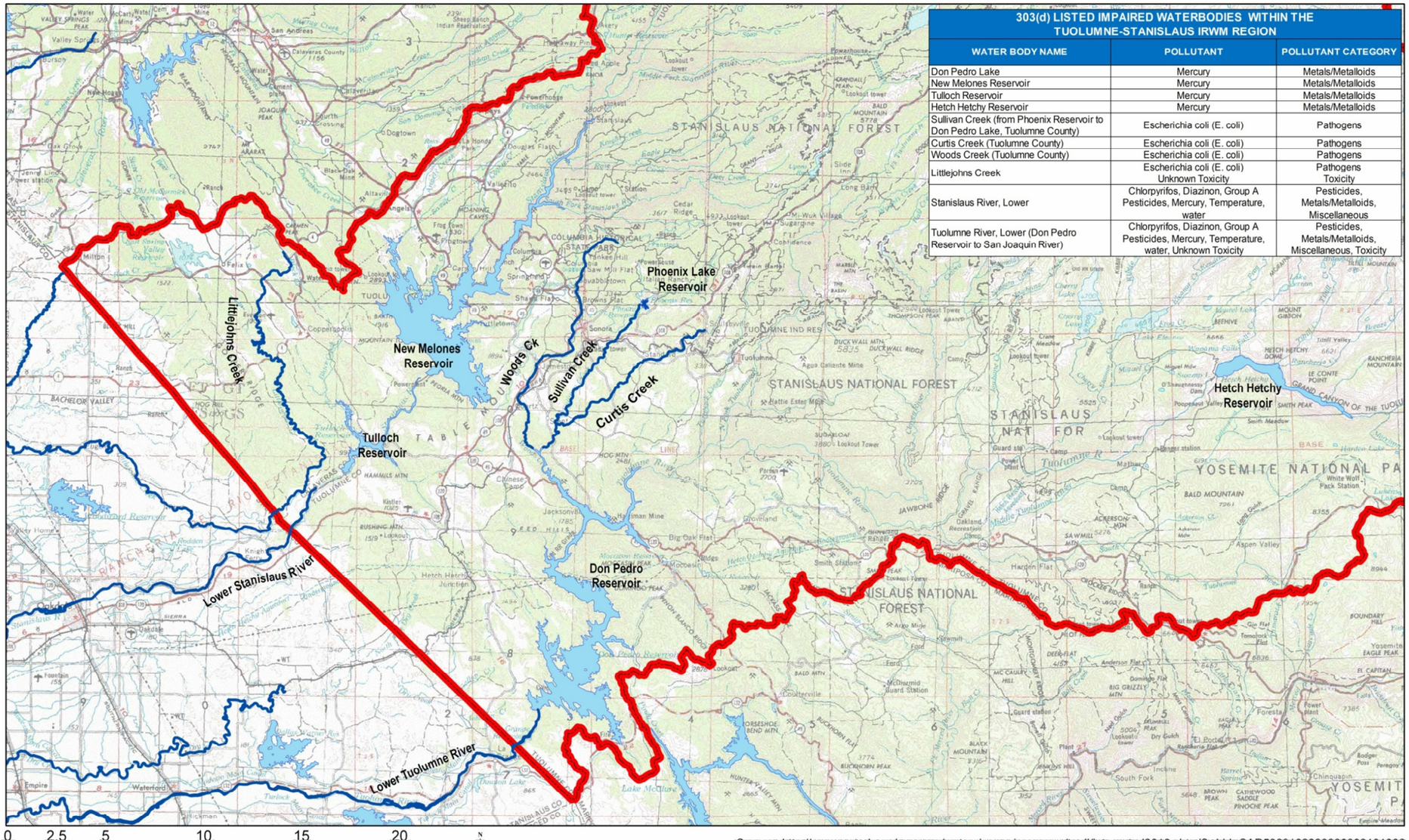
Source: http://www.water.ca.gov/irwm/grants/resourceslinks.cfm

Figure 3-3

Tuolumne Stanislaus IRWM Region

Impaired Waterbodies - Clean Water Act Section 303(d) Listings

IRWM REGION BOUNDARY



303(d) LISTED IMPAIRED WATERBODIES WITHIN THE TUOLUMNE-STANISLAUS IRWM REGION

WATER BODY NAME	POLLUTANT	POLLUTANT CATEGORY
Don Pedro Lake	Mercury	Metals/Metalloids
New Melones Reservoir	Mercury	Metals/Metalloids
Tulloch Reservoir	Mercury	Metals/Metalloids
Hetch Hetchy Reservoir	Mercury	Metals/Metalloids
Sullivan Creek (from Phoenix Reservoir to Don Pedro Lake, Tuolumne County)	Escherichia coli (E. coli)	Pathogens
Curtis Creek (Tuolumne County)	Escherichia coli (E. coli)	Pathogens
Woods Creek (Tuolumne County)	Escherichia coli (E. coli)	Pathogens
Littlejohns Creek	Escherichia coli (E. coli) Unknown Toxicity	Pathogens Toxicity
Stanislaus River, Lower	Chlorpyrifos, Diazinon, Group A Pesticides, Mercury, Temperature, water	Pesticides, Metals/Metalloids, Miscellaneous
Tuolumne River, Lower (Don Pedro Reservoir to San Joaquin River)	Chlorpyrifos, Diazinon, Group A Pesticides, Mercury, Temperature, water, Unknown Toxicity	Pesticides, Metals/Metalloids, Miscellaneous, Toxicity

II. Proposed Work Items

The following section describes each project within the proposal. Each project work plan is organized in the following format:

1. Executive Summary
    a. Project Synopsis
    b. Project Benefits
    c. Cost and Schedule
2. Proposed Work
    a. Project Description
    b. Goals and Objectives
    c. Purpose and Need
    d. Integrated Elements of Projects
    e. Completed Work
    f. Existing Data and Studies
    g. Project Map
    h. Project Timing and Phasing
3. Work Plan Table
4. Other Required Information (As needed per project.)
    a. Procedures
    b. Standards
    c. Development of Monitoring Plan and Quality Assurance Plan
    d. Status of Acquisition of Land or ROWs
    e. Building Materials, Project Design Status, and Bid Solicitation Efforts
    f. Permits
    g. Status of Preparation and Completion of Environmental Requirements
    h. Submittals to Granting Agency
    i. Design Plans and Specifications

j. Other

Murphys Sanitary District Wastewater Treatment Facility Sprayfield Improvement Project (TS-IRWM Project No. 2)

Murphys Sanitary District

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Program Preferences

☑ Include Regional Projects/Programs
☐ Integrate water management within hydrologic region
☐ Effectively resolve significant water related conflicts within or between regions
☑ Contribute to attainment or one or more objectives to CALFED
☑ Address critical water supply/quality needs of DAC
☐ Effectively integrate water management with land use planning
☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

☑ Drought preparedness
☑ Use and reuse water more efficiently
☐ Climate change response actions
☑ Expand environmental stewardship
☐ Practice integrated flood management
☑ Protect surface water and groundwater quality
☐ Improve tribal water & natural resources
☐ Ensure equitable distribution of benefits

CALFED Primary Objectives

☑ Ecosystem quality
☐ Water supply
☑ Water quality
☐ Levee system integrity

1. Executive Summary

a. Project Synopsis

The Murphys Sanitary District (District) owns and operates a 0.20 Mgal/day dry weather flow secondary wastewater treatment facility (WWTF) serving the Disadvantaged Community of Murphys. The WWTF is regulated by Order No. 5-00-264 and provides equivalent secondary effluent treatment via pond treatment and chlorine disinfection. This disinfected secondary effluent is discharged to an effluent holding reservoir (Pond 4) where it is reclaimed by Hay Station Ranch (Kautz Property) as an agricultural irrigation water supply. This reuse of effluent is permitted by Order No. R5-2007-0050.

Based on ongoing communications between the District and Hay Station Ranch, and recent disposal capacity shortfall resulting in Regional Water Board issuance of Notices of Violation, it has become necessary to add supplemental effluent disposal capacity to back-up the current 0.45 Mgal/day (monthly average) of effluent reclamation capacity provided by Hay Station Ranch. Under current and future agricultural practices of Hay Station Ranch, the reclamation capacity may not be adequate to dispose of the entire amount of effluent produced by the WWTF. To address this concern, the District purchased and evaluated 20 acres of land adjacent to the east/southeast border of the WWTF to provide supplemental/back-up effluent disposal capacity to that provided by Hay Station Ranch. Implementation of this project will result in converting the newly acquired 20 acre parcel into a sprayfield. This supplemental disposal capacity will provide redundancy and be utilized on an as-needed basis from year-to-year and season-to-season, depending on the irrigation needs of Hay Station Ranch and the disposal needs of the District.

The proposed Sprayfield Project would supplement the District's current effluent disposal capacity. Additional effluent disposal facilities would assure complete land containment of all effluent under foreseeable climactic conditions and Hay Station Ranch/District needs. The Sprayfield Project does not add capacity to the WWTF, but rather is added solely to provide redundant/back-up effluent disposal to that provided by Hay Station Ranch. The addition of this safety feature is needed to help avoid public health concerns and protect the environment. These concerns were realized when Notices of Violation (NOV) related to the bypass of treatment protocols and the exceedance of regulated freeboard requirements were issued against the District as a result of inadequate disposal capacity. See Appendix 3-A (Att3_IG2_TuolStan_WorkPlan_2of5).

The improvements described below will occur with the implementation of the proposed project as currently designed:

1. Site Preparation: The District will utilize and possibly upgrade existing access roads.

2. Irrigation Installation: Approximately 11.4 acres of sprinklers on 20 acres of land will be buried and/or installed above ground (TBD during detailed design) from the irrigation pump station to the individual sprinklers.
3. Create Effluent Runoff Containment Facilities: A ditch berm system will be installed around the toe of the property slopes to channel any effluent runoff to one of two catchment basins for re-circulation and re-application to the disposal area. These runoff containment facilities ensure that effluent will not runoff and enter any nearby waterways. The ditches/berms for these facilities will be small, ranging from 1 to 2 feet high and located strategically in areas to intercept any effluent runoff that may occur and route it to onsite containment facilities.
4. Install Irrigation Pump Station: An irrigation pump station will be located on the property adjacent to the WWTF ponds.
5. Install Monitoring Wells: Additional groundwater monitoring wells will be installed pending Regional Water Board requirements. The wells will consist of a small well pad and a stove-pipe well head for data collection.
6. Post Fencing & Signs: If necessary, the project areas will be restricted from public trespass by fencing & signs.
7. Implement Operations: Under the proposed project, it is estimated that the total amount of effluent irrigation per year will depend on Hay Station Ranch effluent needs and climactic factors. The proposed effluent disposal system would be operated during dry weather to the extent needed to maintain compliance with Regional Water Board regulations. The irrigation areas will be maintained to prevent accumulation of debris that may create an atypical fire hazard for the area.

The proposed Sprayfield Project will complement a planned Wastewater Treatment Facility Improvement Project. The WWTF Improvement Project would ultimately provide a Title 22 compliant tertiary wastewater treatment plant. The project design will include continuous backwash sand filters, ultraviolet disinfection facilities, pumping, electrical, and mechanical modifications, modifications to the existing dechlorination detention basin, and increased storage capacity. A planning grant was awarded to the District in March 2013 to help implement the larger Improvement Project. The Sprayfield Improvement Project will enhance and benefit the larger Improvement Project by complementing groundwater quality efforts, recycled water use, and ongoing regulation compliance. The Sprayfield Project is the project this IRWM Grant is proposed to fund.

The District's consultant engineer and team have successfully implemented projects of this type and magnitude. It is through this experience that the District is confident the Sprayfield Project is viable, feasible, and beneficial to surface water and groundwater quality, reuse efficiency, and would serve the best interest of the District and the public

b. Project Benefits

Water Supply and Distribution	*Construction of the sprayfields would improve agricultural irrigation efficiencies by allowing Hay Station Ranch irrigation flexibility. It also promotes water recycling thereby contributing to sustainable water supply and reliability during water shortages. Irrigation will allow grazing to occur on the parcel thereby benefiting agricultural land use in the area.*

Water Quality	*Construction of the back-up disposal system would increase reliability and contain the District's effluent. This helps prevent surface water contamination and potential costs associated with environmental cleanup. The project's implementation would protect beneficial uses of surrounding areas, help the District meet or exceed Waste Discharge Requirements, and comply with water quality regulations thereby ensuring public health and the environment are protected. Sprayfield construction would mitigate existing disposal capacity shortage which has resulted in Notices of Violation to the District from the Regional Water Board.*
Environmental Stewardship	*Construction of the back-up disposal system would provide habitat & waterway protection by preventing failure to completely contain the District's effluent.*

c. Cost and Schedule

Grant funding requested under Proposition 84 for implementation of the Wastewater Treatment Facility Sprayfield Project is $285,000. This funding would allow the District to construct sprayfield infrastructure. Murphys is classified as a Disadvantaged Community (DAC) with a median household income of $45,299. Based on the community's DAC status, a DAC Program Preference is requested. However, the corresponding funding match waiver is not needed as the District is using the purchase of the 20 acre Sprayfield property as a grant match.

A larger Wastewater Treatment Facility Improvement Project is planned for the near future. A planning grant in the amount of $335,000 was awarded to the district to help implement this larger proposed project. An additional $5.2 million will be sought from other funding sources to meet the estimated cost of these improvements.

Should the additional funding for the larger improvement project fail to materialize, the installation of the Sprayfield Project would still be of great benefit to the district.

2. Proposed Work

Project Description:
The District currently provides treated effluent to Hay Station Ranch for irrigation purposes. At this time, there are no other disposal means available to the District. With ongoing changes in ranching practices (i.e. reduction of water needs), the District has a need to supplement its current reclamation operation with additional disposal capacity. Construction of new sprayfield infrastructure on recently acquired District property will allow said supplemental capacity. The intent of the project is to offset decreases in reclaimed water use by Hay Station Ranch to accommodate reasonable seasonable variation in irrigation needs. Providing Hay Station Ranch with this flexibility fosters a cooperative relationship between the District and Hay Station Ranch that is important to the long-term beneficial reclamation of most (if not all) District effluent per the objectives of the California Water Code and Regional Water Board's Basin Plan.

Goals and Objectives:
The purpose of this project is to provide the District reliable effluent disposal capacity under various climactic conditions and Hay Station Ranch irrigation needs. This project is needed to help the District maintain compliance with Water Board regulations and protect the environment and public health by ensuring complete land containment and adequate treatment of all District effluent. Other goals of this project are to increase agricultural water use efficiency, provide flexibility to Hay Station Ranch for their agricultural water needs, reduce non-point source contamination, maintain water quality, help eliminate future violations of state regulations, and help facilitate development of an affordable water supply for agricultural water users.

Purpose and Need:
The purpose of the Sprayfield Project is to supplement the District's current effluent disposal capacity. Additional effluent disposal facilities would assure complete land containment of all effluent under foreseeable climactic conditions and Hay Station Ranch conditions and irrigation needs. This project is necessary to prevent future violations of the District's Waste Discharge requirements and protect public health and the environment from potential effluent bypass or spills resulting from inadequate disposal capacity.

The Sprayfield Project addresses several of the adopted IRWM Plan's goals and objectives as follows:

- Reduce non-point source contamination in groundwater and natural streams by providing a back-up disposal system that will eliminate future violations of state regulations under various climactic conditions. Groundwater contamination reduction would be achieved by providing a disposal system that will utilize agronomic loading rates. Surface water contamination will be eliminated through protection of drainage channels tributary to the area by providing the District with increased disposal capacity thereby eliminating wastewater bypass of treatment facilities and/or effluent spills. (Objective B)
- Improve infrastructure to meet wastewater discharge and disposal requirements. Installation of the proposed back-up disposal system will enable the District to comply with Water Board regulations. (Objective C)
- Increase current and future water use efficiency by agricultural end users by helping to facilitate development of an affordable water supply for agricultural water users. (Objective L)
- Develop sufficient reliable and affordable water supplies to meet regional demands of existing and projected water supply needs under a multi-year drought now and into the future by helping to facilitate wastewater reuse. Facilitation of reclaimed water alleviates demand for potable water used for irrigation purposes thereby contributing to the reliability of the existing water supply. (Objective M)

The Sprayfield Project would install infrastructure necessary as a back-up or supplemental system. Within the past few years, the District has received Notices of Violation related to the inadequate disposal capacity. These inadequacies resulted in 1) effluent bypass of the disinfection system to the storage ponds and subsequent use of irrigation water and 2) exceedance of the storage pond freeboard requirements. Both of these were/are a violation of state regulations and a concern for public health and the environment. As such, the Sprayfield Project addresses critical water quality needs set forth as PSP Program Preferences and Statewide Priorities as follows:

- Address critical water quality needs of DACs within the region by providing wastewater treatment infrastructure necessary to abate or prevent surface and groundwater contamination.
- Address statewide priorities for drought preparedness, water reuse efficiency, and protection of surface water and groundwater quality by providing wastewater treatment infrastructure necessary to help alleviate demand for potable water, facilitate the use of reclaimed water for efficient irrigation practices, and protect beneficial uses of the surrounding areas from future contamination and meet waste discharge standards.

Integrated Elements of Projects:
This project integrates with the reconstruction of Groveland Community Service District's lift station and expanding Calaveras County Water District wastewater pond by working toward the common IRWM objective of improving infrastructure to meet wastewater discharge/disposal requirements for DAC's. Completion of this suite of projects will protect water resources in the T-S IRWM Region from contamination. They further complement each other and the other projects in this proposal on a regional basis by meeting Statewide Priorities of using and reusing water more efficiently and protecting surface and groundwater quality.

Completed Work:
Work completed for the Sprayfield Project includes the following:

- Purchase of 20 acre parcel adjacent to the WWTF
- Preliminary Feasibility Evaluation
- Groundwater Monitoring Work Plan
- Report of waste Discharge submitted to the Regional Water Board to obtain updated Waste Discharge Requirements including a Streamlined Anti-Degradation Analysis
- Completion of CEQA documentation, specifically an Initial Study and Mitigated Negative Declaration
- Preliminary Hydrogeologic Impact Assessment & Effluent Disposal Evaluation report
- A planning grant for the overall WWTF Improvement project was applied for and successfully received from CWSRF by the District. This grant will allow the district to conduct feasibility analyses, alternatives evaluations, a Project Report, environmental analysis, preliminary design, a rate study, and a construction grant application.

Existing Data and Studies:
As noted above, several technical studies have already been completed that support the viability of the Sprayfield Project. The effluent disposal capacity potential of the project was evaluated in the attached Preliminary Hydrogeologic Impact Assessment & Effluent Disposal Evaluation report and found to be approximately 9.3 MG during a 1 in 100 precipitation year,see Appendix 3-A (Att3_IG2_TuolStan_WorkPlan_2of5). Additionally, a Report of Waste Discharge Technical Support Document which can be found in the last section of the attached Report of Waste Discharge (ROWD) further supports the viability of the Sprayfield Project.

Project Map:

A site map showing the Sprayfield Project's geographical location and the surrounding work boundaries is attached.

Project Timing and Phasing:

Upon receipt of funding MSD anticipates starting environmental documentation and design immediately and expects construction to be complete in 2014. As noted previously, improvements to the WWTF are planned for the near future pending successful grant funding. The proposed Sprayfield Project is a stand-alone project with many of its own benefits. The Sprayfield Project will be fully functional without implementation of the other proposed WWTF improvements. Additionally, the Sprayfield Project would benefit the future WWTF improvement project.

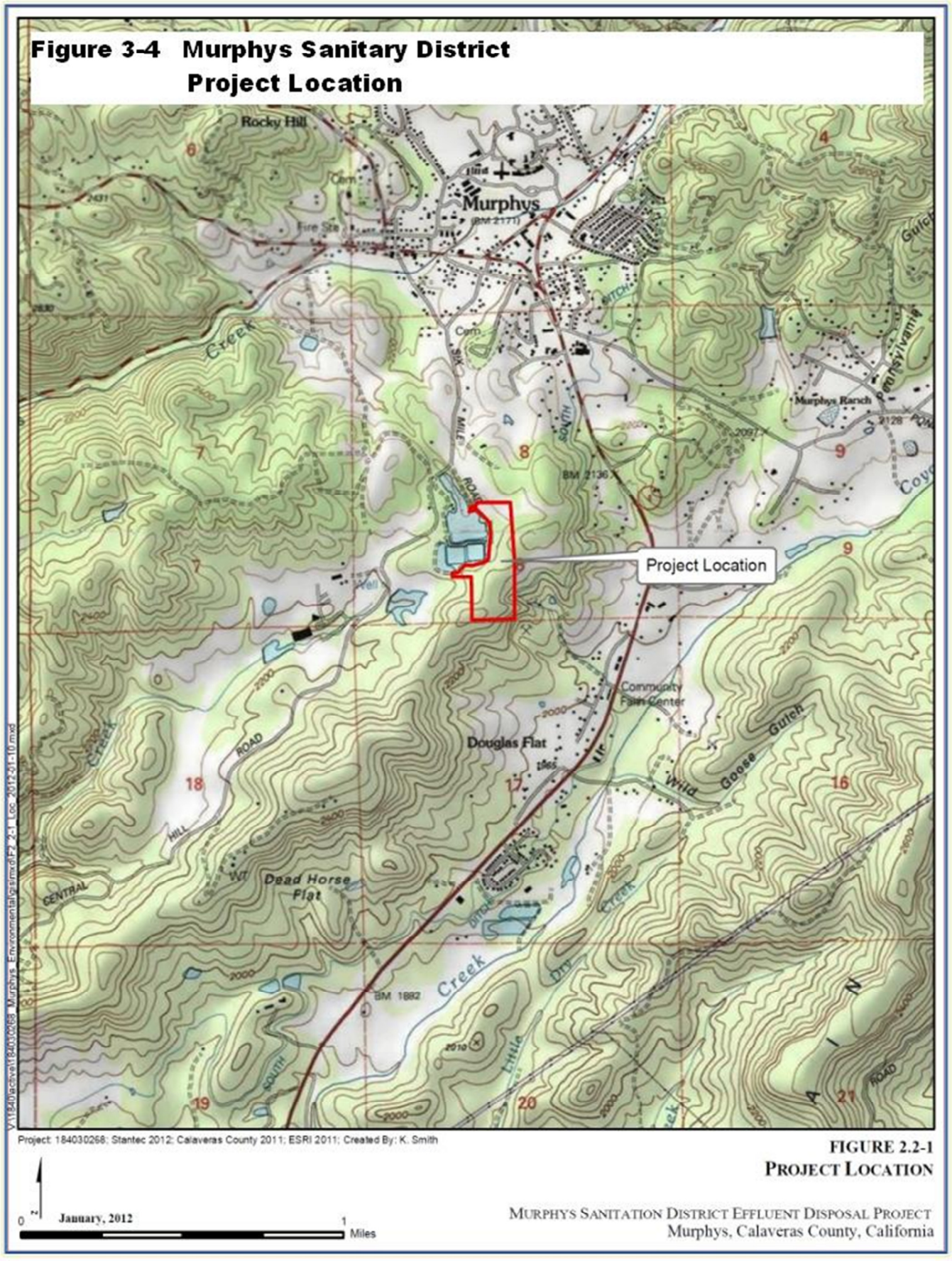
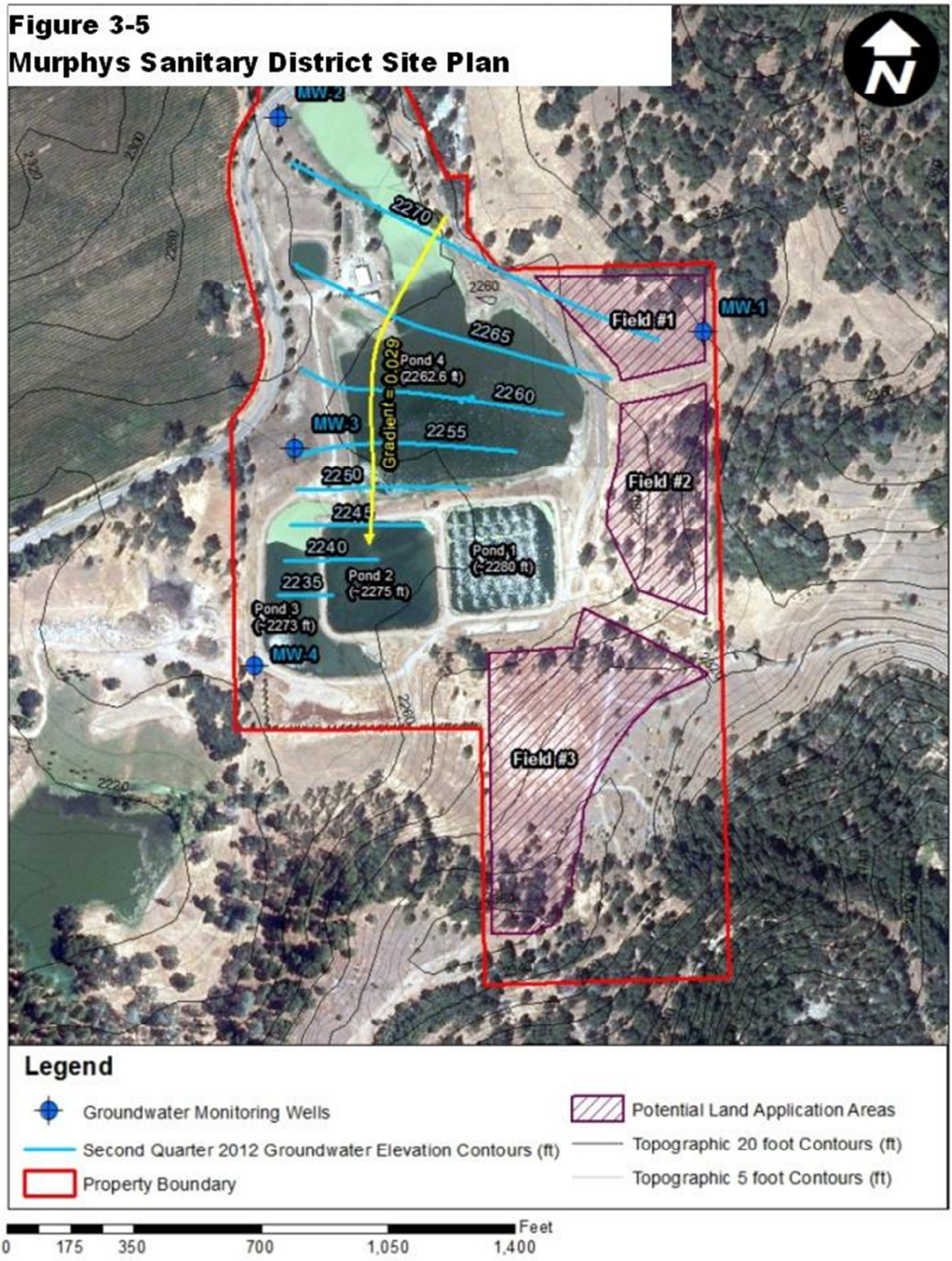


Figure 3-4 Murphys Sanitary District
Project Location
Rocky Hill
Murphys
Project Location
Douglas Flat
Dead Horse Flat
Murphys Ranch
Community Farm Center
Wild Goose Gulch
Project: 184030268; Stantec 2012; Calaveras County 2011; ESRI 2011; Created By: K. Smith
January, 2012
0
1
Miles
FIGURE 2.2-1
PROJECT LOCATION
MURPHYS SANITATION DISTRICT EFFLUENT DISPOSAL PROJECT
Murphys, Calaveras County, California

Groundwater Monitoring Well and Pond Locations with Groundwater Contours



3. Work Plan Table

Tasks necessary to implement the Wastewater Treatment Facility Sprayfield Project are described in Table 1.

Table 1: Work Plan for Wastewater Treatment Facility Sprayfield Project

Budget Category (a): Direct Project Administration
Task 1: Administration Description: Prepare and submit invoices and other documentation required by DWR. The Tuolumne County Resource Conservation District will be providing overall regional grant administration services for all projects. Details of those services are provided in the TCRCD Work Plan. This task will be ongoing from grant approval to close-out. Deliverables: Invoices and necessary documentation.
Task 2: Labor Compliance Program Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Includes compliance with state and federal laws. The District will ensure contractors comply with requirements through review of certified payroll, employee interviews (if necessary), and job site inspections. This task will be ongoing from grant approval to close-out. Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.
Task 3: Reporting Description: Prepare quarterly and final reports as specified in the Grant Agreement. Includes preparation of quarterly and final reports as required by the Grant and agreed to by the District. This task will be ongoing from grant approval to close-out. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Budget Category (b): Land Purchase/Easement
Task 4: Land Acquisition Description: Acquire nearby disposal parcel. The District purchased and evaluated a 20 acre parcel adjacent to the easterly boundary of the WWTF property. Approximately 11.4 acres of this property is proposed for land disposal. Completed 2009. Deliverables: Purchase of 20 acre parcel as evidenced by proof of purchase.
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 5: Assessment and Evaluation Description: Assess proposed project impacts and analyze feasibility of proposed project. Includes technical evaluation of the property as it relates to effluent disposal potential. The potential disposal capacity is assessed through water balances along with the appropriateness of the site for the proposed use. Please refer to pages 11 and 12 along with Appendix A of the attached Preliminary Hydrogeologic Impact Assessment & Effluent Disposal Evaluation report. Completed 8/2012. Deliverables: Preliminary Feasibility Evaluation; Preliminary Hydrogeologic Impact Assessment and Effluent Disposal Evaluation Report.
Task 6: Conceptual design Description: Preparation of conceptual layout and project planning. Includes preliminary layout of proposed improvements and project planning. Please refer to page 2 of the attached Preliminary Hydrogeologic Impact Assessment & Effluent Disposal Evaluation report. Completed 7/2012. Deliverables: Conceptual layout.
Task 7: Environmental Documentation Description: Preparation and filing of the required CEQA documentation. Includes preparation and filing of CEQA documentation. A CEQA Initial Study and Mitigated Negative Declaration was prepared, filed, and adopted by the District. The CEQA document included a cultural resources assessment; however, tribal notification was not included. The referenced CEQA document may be found beginning on the 11th page of

the attached ROWD. A CEQA amendment to include tribal notification will be prepared, and the process is anticipated to take approximately 4 months to complete. The project doesn't contain a federal nexus that triggers NEPA requirements; however, if required by the Grant, NEPA documentation will be prepared and incorporated into the amended CEQA documentation. Partially complete. Deliverables: Completed CEQA documentation – Initial Study and Mitigated Negative Declaration
Task 8: Final Design Description: Preparation of project plans, specifications and engineer's estimate. Includes detailed analysis of proposed system and appurtenances; preparation of construction plans, engineer's estimate, and project specifications sufficient to solicit for bids. This task will begin upon successful funding. Deliverables: Final Plans and Specifications for bidding.
Budget Category (d): Construction/Implementation
Task 9: Construction Contracting Description: Solicitation for contract bids. Consists of solicitation for contract bids, including pre-bid meeting, addressing contractor questions, and preparation of any addendums needed. This task will begin upon finalization of plans and specifications. Deliverables: Bid results summary and award of contract.
Task 10: Construction Description: Construction of the project as described in subtasks below. Includes project construction by the successful low bidder in accordance with project plans and specifications. This task will begin upon award of construction contract. Deliverables: A fully functional sprayfield and related appurtenances as evidenced by construction photos. **Subtask 10.1 Mobilization and Site Preparation:** Description: Contractor mobilization, preliminary grading, access establishment/stabilization (if necessary). Deliverables: Contractor staging area(s), trench excavation, building pad for pump station, and access as evidenced by construction photos. **Subtask 10.2 Project Construction:** Description: Irrigation infrastructure & appurtenance installation, containment system construction, pump station installation, monitoring well installation. Deliverables: Functional irrigation system, two containment basins and ditch/berm system, functional pump station, and functional groundwater monitoring wells as evidenced by construction photos. **Subtask 10.3 Performance Testing and Demobilization:** Description: Compaction testing of soils, pressure testing of pipes, performance testing of constructed system, contractor demobilization. Deliverables: A fully functional sprayfield and related appurtenances as evidenced by test results and construction photos.
Budget Category (e): Environmental Compliance/Mitigation/Enhancement
Task 11: Environmental Compliance/Mitigation Description: Preconstruction surveys and mitigation of construction activities. Includes preconstruction surveys for special status plant and wildlife species, oak tree identification/protection/mitigation, erosion control, dust control, cultural resource protection, and fire prevention measures. Much of this work will be addressed concurrently with final design and construction. Oak tree mitigation may be required pending project impacts to oak trees as determined upon project completion. Deliverables: Full compliance with CEQA documentation throughout design & construction and beyond as evidenced by project specifications and construction photos. **Subtask 11.1 Preconstruction Surveys:** Description: Preconstruction surveys for special status plant and wildlife species, oak tree identification by certified biologist.

Deliverables: Completed surveys in accordance with CEQA documentation and the identification and marking of oak trees to be saved and impacted by the project as evidenced by pre and post construction photos.

Subtask 11.2 General Design Phase, Construction Phase, and Post-Project Mitigation Measures:

Description: Oak tree protection, erosion control, dust control, cultural resource protection, and fire prevention measures.

Deliverables: Mitigation in accordance with CEQA documentation to be incorporated into project plans and specifications. Contractor compliance with CEQA requirements to be ensured through routine inspections and contract documents as evidenced by construction photos. Ongoing erosion control maintenance and oak tree monitoring/mitigation will be by District staff.

Subtask 11.3 Oak Tree Mitigation Measures:

Description: Oak tree mitigation upon project completion as needed.

Deliverables: Mitigation in accordance with CEQA documentation to include oak preservation, oak restoration, or an in-lieu payment to the Oak Conservation Fund as evidenced by project photos and/or Oak Conservation Fund documentation.

Task 12: Implementation of Monitoring Programs

Description: Groundwater and effluent monitoring will be required by the Regional Water Board and detailed in the anticipated Waste Discharge Requirements discussed under Task #9. A groundwater Monitoring Work Plan has been prepared. Upon project implementation, all applicable monitoring will occur as required.

Deliverables: Full compliance with CEQA documentation and Water Board requirements. Groundwater monitoring work plan and ongoing groundwater and effluent monitoring by District staff as required by Water Board.

Budget Category (f): Construction Administration

Task 13: Construction Administration

Description: Includes review of contractor submittals, monitoring contractor progress through routine site inspections, preparation of weekly inspection reports, preparation of change orders (if necessary), and processing of progress payments & final payment. This task will commence upon award of construction contract.

Deliverables: Approved submittals, weekly progress reports, change orders, and evidence of contractor payments.

Budget Category (g): Other Costs or Activities

Task 14: Permits

Description: Obtain encroachment permit from Calaveras County & revised Waste Discharge Requirements from the Water Board. An encroachment permit will be obtained from Calaveras County. To utilize new sprayfields, the District needs to receive updated Waste Discharge Requirements (WDRs) from the Regional Water Quality Control Board. This process was initiated in October 2012 via submittal of the attached Report of Waste Discharge (ROWD). As of the date of this writing, the ROWD is being reviewed by RWQCB. Revised WDRs are anticipated by the end of the 2013 calender year. Partially complete.

Deliverables: Copies of encroachment permit (to be provided as part of the Final Specifications). Report of Waste Discharge (includes Streamlined Anti-Degradation Study) submitted to Water Board with updated WDRs to be received from Water Board.

Budget Category (h): Construction/Implementation Contingency

10% construction contingency

4. Other Required Information

Procedures
District staff will coordinate with its partner agencies and organizations that may receive funding from the grant through emails, meetings, phone calls, and other amicable means. The use of contracts, memorandums of understanding (MOUs), and other formal agreements will be done as needed. The TCRCD will act as overall grant administrator and manager for all eight project proponents. As such the TCRCD will have a strong leadership role in coordinating administrative functions with the other Agencies. The TCRCD will prepare a standard MOU for signature by the other grant participants that will be finalized once grant funding is secured (a draft is already in preparation).

Standards
Project implementation will utilize District & Caltrans construction standards. Health and safety standards established by state and federal regulations will be adhered to. Construction materials will be required to meet applicable material testing standards as certified by manufacturer documentation. Any laboratory analysis will be performed by certified laboratories in accordance with industry standards.

Development of Monitoring Plan and Quality Assurance Project Plan
A groundwater Monitoring Work Plan was prepared. The Regional Water Board will establish and approve various monitoring protocols required for the completed project. These ongoing monitoring programs will track the performance of the completed project. Construction inspections and quality assurance of materials used to construct the project will be provided by the District Engineer during construction of the project.

Status of Acquisition of Land or ROWs
A 20 acre parcel adjacent to the easterly boundary of the WWTF property was purchased and evaluated for the proposed project. This acquisition is complete and the land is appropriate for the proposed use as detailed in the Preliminary Hydrogeologic Impact Assessment & Effluent Disposal Evaluation report.

Building Materials, Project Design Status, and Bid Solicitation Efforts
Building materials will include pipeline, pumps, and related appurtenances as determined in the final design of the project. Preliminary evaluation and conceptual design of the Sprayfield Project are documented in the Report of Waste Discharge. The conceptual layout of the project can be seen in Figure 2.2.1 found on Page 2.7 in the attached Report of Waste Discharge. Bid solicitation will occur upon completion of the final design phase.

Permits
A Grading Permit will be obtained from Calaveras County if necessary. Waste Discharge Requirements have not yet been established by the Regional Water board; however, the process to obtain WDRs was initiated in October 2012 through the submittal of a Report of Waste Discharge to the Water Board. As of the date of this writing, Water Board staff is reviewing the Report of Waste Discharge. The receipt of WDRs that will allow the proposed disposal practices is anticipated.

Status of Preparation and Completion of Environmental Requirements
A CEQA Initial Study and Mitigated Negative Declaration was prepared, filed, and adopted by the District. The CEQA document included a cultural resources assessment; however, tribal notification was not included. A CEQA amendment to include tribal notification will be prepared, and the process is anticipated to take approximately 4 months to complete. The project doesn't contain a federal nexus that triggers NEPA requirements; however, if required by the Grant, NEPA documentation will be prepared and completed.

Environmental mitigation tasks to comply with identified mitigation measures include preconstruction surveys (nests & botanical), oak tree identification/protection/mitigation, erosion control, dust control, cultural resource protection, and fire prevention measures. The preconstruction surveys and oak tree identification will occur concurrently with the final design phase and prior to commencement of construction activities. Erosion control, dust control, cultural resource protection, and fire prevention measures will be incorporated into the project contract documents during the final design phase. Oak tree protection, erosion control, dust control, cultural resource protection, and fire prevention measures will be implemented by the contractor in accordance with the project plans and specifications. Oak tree mitigation will be completed by the district, if necessary, pending as-built conditions and final project impacts on the trees.

Submittals to Granting Agency

Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Design Plans and Specifications

Preliminary evaluation and conceptual design of the Sprayfield Project are documented in the attached Report of Waste Discharge. The conceptual layout of the project can be seen in Figure 2.2.1 found on Page 2.7 in the Report of Waste Discharge (ROWD).

Stanislaus National Forest Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project (T-S IRWM Project No. 9)

US Forest Service – Stanislaus National Forest
Contact:
Tracy Weddle
209) 965-3434 x5321
tweddle@fs.fed.us

Program Preferences

☑ Include Regional Projects/Programs
☑ Integrate water management within hydrologic region
☐ Effectively resolve significant water related conflicts within or between regions
☑ Contribute to attainment or one or more objectives to CALFED
☐ Address critical water supply/quality needs of DAC
☑ Effectively integrate water management with land use planning
☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

☑ Drought preparedness
☑ Use and reuse water more efficiently
☑ Climate change response actions
☑ Expand environmental stewardship
☑ Practice integrated flood management
☑ Protect surface water and groundwater quality
☑ Improve tribal water & natural resources
☐ Ensure equitable distribution of benefits

CALFED Primary Objectives

☑ Ecosystem quality
☑ Water supply
☑ Water quality
☐ Levee system integrity

1. Executive Summary

a. Project Synopsis

The Stanislaus National Forest plans to implement the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project. The Upper South Fork Stanislaus River Watershed is a headwater source for the water supply that serves over 80% of water customers in Tuolumne County, which comprises numerous DACs. In addition it is of special value because it contains an unusual concentration and diversity of meadow, fen, and spring habitats and is home to rare species including the Yosemite toad and Great Gray Owl. Yet, watershed values have been placed at risk from a number of sources including: wildfire, recreation, meadow degradation, and sedimentation. The Stanislaus National Forest has begun investing in ecosystem restoration to preserve the values of this important watershed. However, the watershed remains at risk from loss of meadow functioning and reduced water quality from road sediment inputs.

The proposed project contributes to the broad scale ecosystem restoration efforts ongoing in this watershed through restoration of seven wet meadows totaling 130 acres and repair of road culverts that are contributing sediment to aquatic ecosystems. By implementing treatments on culverts and a cluster of meadows within the same watershed this project will attain synergistic benefits for the ecosystem greater than would be achieved by more dispersed efforts. This project would treat Bloomer Lake Meadow, Bluff Meadow, Groundhog Meadow, and Coyote meadow where headcuts are lowering the water table and must be stabilized to prevent degradation of meadow values and ecosystem function. In addition, a recreational trail in Coyote Meadow is diverting water from the stream and must be re-routed to improve water quality, prevent degradation of a nearby Yosemite toad breeding pool, and improve recreational access. The project will also restore Leland Gully, Upper Three Meadow, and Middle Three Meadow which have deep gullies that have already dried the meadows and impaired their functioning. Filling the gullies and redesigning the stream channels will re-wet the meadows. Finally, the project will repair 40 road culverts in the watershed that are at-risk of failure due to damage or plugging. These repairs will allow water and sediment to pass normally through stream systems and will reduce erosion of road surfaces and fill material that is harming water quality and aquatic ecosystems.

b. Project Benefits

Water Supply and Distribution	*This project will improve water supply reliability by increasing water storage in the watershed. Meadow restorations will increase or protect subsurface water storage in 78 acres of meadow. Functioning meadows store water like a sponge and release it slowly.*
Water Quality	*Restoration activities in this project will improve water quality by protecting and improving vegetation composition, bank stability, floodplain connectivity, and filtration capability in 78 acres of wet meadows. In addition maintenance of road culverts will stabilize ongoing road erosion and reduce the risk of future sediment inputs from culvert failures.*
Ecosystem Improvement	*This project will restore and protect 78 acres of degraded and threatened wet meadows that are of particular habitat value to mule deer, Great Gray Owl, and Yosemite toad, a US Fish and Wildlife Service candidate species.*
Recreation and Public Access	*This project will provide improved recreational experience by rerouting a 0.3 mile trail segment that frequently becomes wet and muddy to a more sustainable alignment. Meadow restoration will improve and restore 78 acres of habitat critical for deer fawning which will improve hunting opportunities in the watershed.*
Other	*This project will increase and protect flood attenuation capacity in 78 acres of meadow by restoring stream-floodplain connectivity. Storage of around 3000 tonnes of carbon will be protected or gained by restoring the project meadows. Meadow restorations are expected to be self-sustaining, meaning benefits will be long lasting without additional investment.*

c. Cost and Schedule

Grant funding requested under Proposition 84 for the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project is $350,000. Non-state match funds in the amount of $30,000 have been received from Army Corps of Engineers and an additional $356,502 will be provided from Stanislaus National Forest appropriated funds to meet the total estimated project costs of $736,502.

Components of this project are at various phases of completion. Implementation at Leland Gully began in fall 2010 and final heavy equipment work was completed in September 2012. An inventory identifying priority sites for culvert maintenance was completed in late September 2010, environmental documentation (Categorical Exclusion) was completed in June 2011, and implementation is planned for September 2013. Planning and environmental documentation (Categorical Exclusion) for Coyote Meadow restoration treatments are expected to be complete by the end of September 2013.

2. Proposed Work

Project Description:
The proposed project contributes to ecosystem restoration efforts ongoing in the Upper South Fork Stanislaus River Watershed by restoring seven wet meadows totaling 130 acres and repairing 40 road culverts that are contributing sediment to aquatic ecosystems. In Bloomer Lake Meadow, Bluff Meadow, Groundhog Meadow, and Coyote meadow, headcuts are lowering the water table and will be stabilized to prevent degradation of meadow values and ecosystem function. This will be accomplished with rock control structures, stream bank slope modification, and re-vegetation with native plantings. In addition, a recreational trail cuts across Coyote Meadow and is diverting water from the stream, causing erosion and poor trail conditions. To improve water quality, prevent degradation of a nearby Yosemite toad breeding pool, and improve recreational access, this segment of trail will be decommissioned and returned to natural meadow conditions and a new trail segment will be constructed that avoids the meadow. The project also restores Leland Gully, Upper Three Meadow, and Middle Three Meadow where deep gullies have already dried the meadows and impaired their functioning. Filling the gullies and redesigning the stream channel will re-wet the meadows. Finally, the project will repair 40 road culverts in the watershed that are at-risk of failure due to damage or plugging. These repairs will allow water and sediment to pass normally through stream systems and will reduce erosion of road surfaces and fill material that is harming water quality and aquatic ecosystems.

Goals and Objectives:
The goal of the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project is to enhance and protect watershed values through gains in water quality, water storage, flood attenuation, carbon storage, wildlife habitat, and recreational opportunities.
This goal will be achieved by meeting the following Project objectives:

1. Stabilize headcuts that would degrade ecosystem functioning in four meadows (29 of 81 acres at-risk).
2. Restore the functioning of three degraded meadows by filling gullies, raising the water table elevation, and restoring stream channel geomorphology (49 acres degraded).
3. Reroute a trail segment in Coyote Meadow, returning stream flow to existing channel.
4. Return 40 plugged and damaged culverts to their designed operating condition.

Purpose and Need:
The overall purpose of the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project is to enhance and protect watershed values by improving water quality, increasing water storage, enhancing flood attenuation capacity, improving wildlife habitat, and developing recreational opportunities. This project addresses several needs identified as regional objectives in the Tuolumne-Stanislaus IRWM Plan:

- *Reduce the negative impacts of stormwater, urban runoff, and nuisance water.* This project will reduce the negative impacts of stormwater by restoring road culverts to operational condition so that stormwater is properly diverted off the road surface and does not cause erosion of road surfaces or fill. In addition, meadow restoration will lead to increased filtration of sediments and sequestration of contaminants and will reduce stream channel erosion by stabilizing banks and reducing damaging flood flows. (Objective B)
- *Improve watershed health in support of increased water yield and ecosystem function.* Restoration of project meadows will allow meadows to store winter and spring runoff and release water more slowly over the year. (Objective D)
- *Improve the condition and ecosystem function of meadows.* Improving degraded meadows is a primary objective of this project. The ecosystem functions of seven meadows will be improved and protected by

restoring hydrological functioning, native vegetation communities, and natural stream geomorphology. (Objective E)

- *Assist in the protection and recovery of sensitive listed and endangered native aquatic species in the region.* Six of the meadows (123 total acres) to be restored by this project are occupied by the Yosemite toad, a Forest Service Sensitive Species and U.S. Fish and Wildlife Service Candidate species. Restoring natural hydrological conditions in these meadows will improve and may create additional suitable habitat for Yosemite toads. The trail re-route at Coyote Meadow would reduce the risk of impacts to toads at an existing breeding pool. (Objective F)
- *Identify, preserve, and promote the regeneration and restoration of wetlands, native plant riparian habitat, and reduce invasive species.* This project will restore and protect native meadow plant communities in seven meadows by establishing a natural water table with stream channel floodplain connectivity necessary for native water-loving plants. Diverse native plant communities will also be promoted by installing native cuttings and applying native seeds in project meadows where native vegetation cover has been diminished. (Objective G)
- *Develop sufficient reliable and affordable water supplies to meet regional demands of existing and projected water supply needs under a multi-year drought now and into the future.* Meadows restored by this project will have an increased or protected capacity for subsurface water storage. Functioning meadows can store a large volume of water like a sponge and release it slowly, helping meet water demands in a watershed critical for municipal supply. (Objective M)
- *Improve integrated land use planning to support watershed management actions that restore, sustain and enhance watershed functions.* This project is an application of land management principles defined by the Aquatic Management Strategy of the Stanislaus National Forest Land and Resource Management Plan (referenced in the IRWM Plan) that are designed to guide forest land use to achieve desired conditions at the ecosystem scale. This project will accomplish goals set forth by that plan which include restoring water quality, restoring aquatic habitat, reconnecting channels and floodplains, and improving watershed condition. (Objective N)

Integrated Elements of Projects:

The Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project integrates directly with the TUD Phoenix Lake Preservation and Restoration Project. Phoenix Lake is supplied by water diverted from the South Fork Stanislaus River at Lyons Reservoir. There are also strong connections with the TCRCD Small Parcel Storm Water Pollution Prevention and Landowner Stewardship Program which will further reduce input of sediment and pathogens into the Stanislaus River and Phoenix Lake. Additionally the ATCAA Home Level Conservation for the DAC and TRT Tuolumne-Stanislaus Watershed Outreach and Stewardship projects will reduce municipal water demands on Phoenix Lake. This suite of projects will contribute to a high quality sustainable municipal water supply at Phoenix Lake and improve water storage capacity in the larger watershed. There are no logistical linkages and all projects can be implemented independently.

Existing Data and Studies:

In 2010 the Stanislaus National Forest assessed the condition of 43 meadows on the Summit Ranger District using the Meadow Hydrologic Function Rapid Assessment protocol (Frazier 2010, Appendix 3-B). Survey results identified that six of the meadows included in this proposal exhibited a loss in hydrological function or were impaired to a degree that threatened to degrade hydrologic function. Restoration of the seventh meadow, Leland Gully, had already begun at the time of this assessment. The large gully at this site, averaging 5-10 feet deep and 25-35 feet wide, had lost hydrologic function.

Road inventories completed in 2009 and 2010 using the Motorized Road and Trail Condition Inventory Protocol (Grant et al. 2011, Appendix 3-B) identified culverts that had been plugged, damaged, or otherwise impaired and catalogued road segments with existing erosion features or risk of future erosion. Many of the roads in the Upper South Fork Stanislaus River Watershed are hydrologically connected to waterways.

Project Map:
Figure 3-6 shows the locations of project meadows and culvert maintenance sites within the Upper South Fork Stanislaus Watershed.

Project Timing and Phasing:
The proposed work for the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project includes 5 components scheduled for implementation:

1: Leland Gully meadow restoration– implementation began in 2010.
2: Culvert Maintenance- Culvert maintenance for sediment reduction and water quality improvement – implementation 2013.
3: Coyote Meadow restoration and trail realignment – implementation 2015.
4: Bloomer Lake, Bluff, and Groundhog Meadows restoration – implementation 2016.
5: Upper and Middle Three Meadows restoration – implementation 2017.

Implementation of the meadow restoration projects typically occurs in the late summer/early fall when the intermittent channels are dry but prior to the arrival of fall rains. Sequential implementation allows work to be done under appropriate environmental conditions. Each element may be implemented independently, enhancing watershed values over time. However maximum benefit to the watershed will be realized by implementing all proposed elements.

Completed Work:
Implementation at Leland Gully began in fall 2010 and final heavy equipment work was completed in September 2012. Revegetation and monitoring efforts at this site will continue until the goal of 90% ground cover is achieved. An inventory identifying priority sites for culvert maintenance was completed in late September 2010, environmental documentation (Categorical Exclusion) is expected to be completed by April 2013, and implementation is planned for September 2013. Planning and environmental documentation (Categorical Exclusion) for Coyote Meadow restoration treatments are expected to be complete by the end of September 2013.

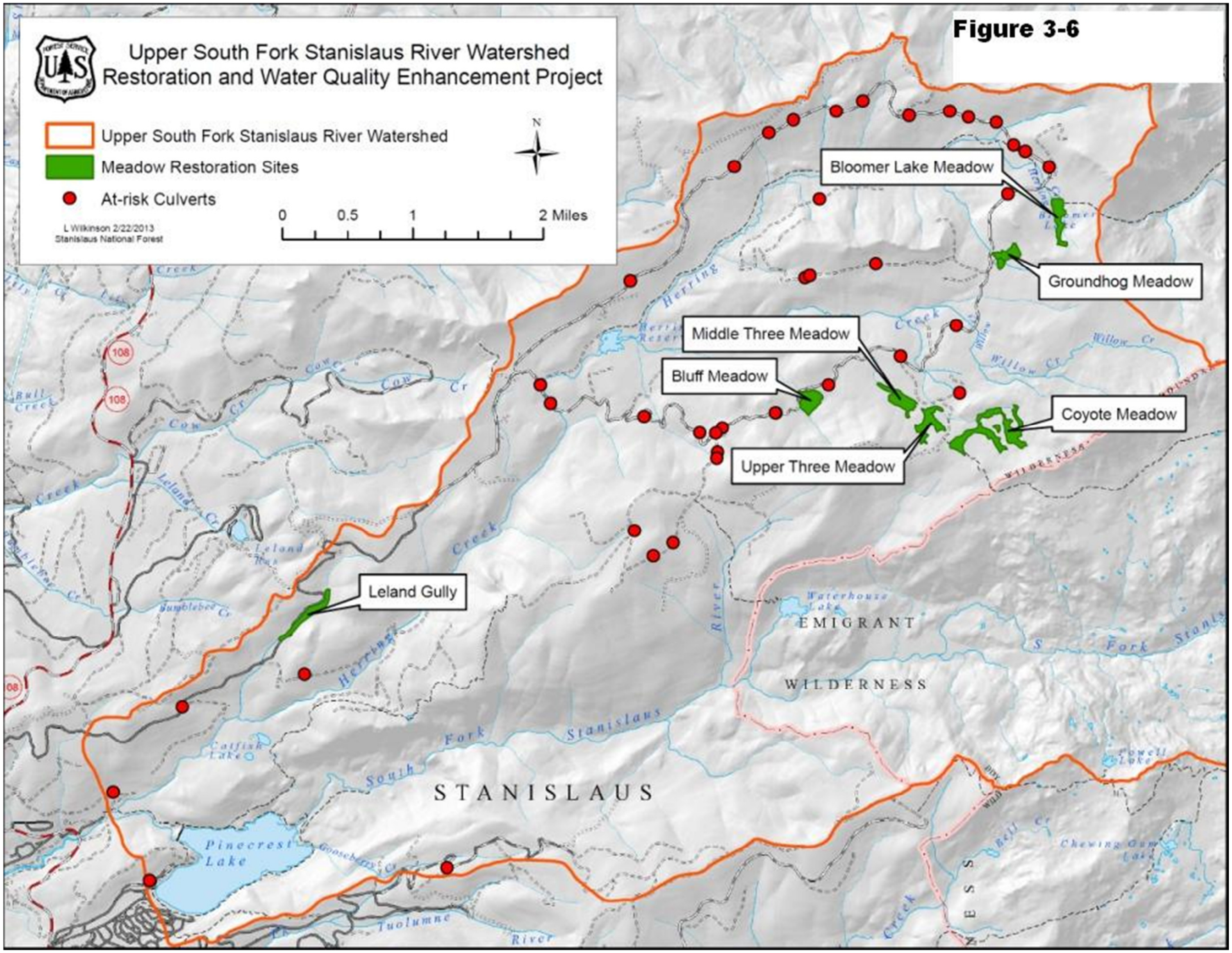


Figure 3-6
Upper South Fork Stanislaus River Watershed
Restoration and Water Quality Enhancement Project
Upper South Fork Stanislaus River Watershed
Meadow Restoration Sites
At-risk Culverts
L Wilkinson 2/22/2013
Stanislaus National Forest
0 0.5 1 2 Miles
N
Bloomer Lake Meadow
Groundhog Meadow
Middle Three Meadow
Bluff Meadow
Coyote Meadow
Upper Three Meadow
Leland Gully
EMIGRANT
WILDERNESS
STANISLAUS
Pinecrest Lake
South Fork Stanislaus
Herring Creek
Tuolumne River

3. Work Plan Table

Tasks necessary to implement the Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project are described in Table 1.

Table 1: Work Plan for Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project

Budget Category (a): Direct Project Administration
Task 1: Administration: Track financial costs. Prepare and submit invoices. Deliverables: Invoices.
Task 2: Labor Compliance Program: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.
Task 3: Reporting: Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Task 4: Assessment and Evaluation: Prepare a Monitoring Plan based on Attachment 6, the Project Performance Measures table. Reporting will be addressed in Task 3. Deliverables: Monitoring Plan.
Budget Category (b): Land Purchase/Easement
No Tasks. The project will be implemented on existing Stanislaus National Forest lands.
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 5: Planning: **5.1 Planning Leland Gully**: Completed 10/2005. **5.2 Planning Culvert Maintenance**: Completed 9/2010. **5.3 Planning Coyote Meadow**: Expected completion before grant award date. **5.4, and 5.5 Planning for Bloomer Lake, Bluff & Groundhog Meadows, and Upper & Middle Three Meadows**: Hydrologist, biologist and other staff will develop proposed action for environmental analysis including approximately 30% of project design. Stanislaus National Forest specialists will complete field surveys required for appropriate environmental documentation. Deliverables: Proposed actions and project initiation forms for restoration of Bloomer Lake, Bluff & Groundhog Meadows, and Upper & Middle Three Meadows.
Task 6: Environmental Documentation: **6.1 Environmental Documentation Leland Gully**: Completed via EA 9/2006. **6.2 Environmental Documentation Culvert Maintenance**: Completed via CE 6/2011. **6.3 Environmental Documentation Coyote Meadow**: Expected to be completed prior to grant award date. **6.4, 6.5 Environmental Documentation Bloomer Lake, Bluff & Groundhog Meadows and Upper & Middle Three Meadows**: These components will require environmental documentation that is expected to be handled via categorical exclusion. Deliverables: Signed Decision Memorandums for Bloomer Lake, Bluff & Groundhog Meadows and Upper & Middle Three Meadows.
Task 7: Design: 7.1 Design Leland Gully: Completed 9/2009. 7.2 Design Culvert Maintenance: Expected to be completed prior to grant award date. **7.3, 7.4, 7.5 Design Coyote Meadow, Bloomer Lake, Bluff & Groundhog Meadows, and Upper & Middle Three Meadows**: Forest hydrologist and other resource specialists will complete plans for meadow restoration

work.
Deliverables: Final Plans and Specifications for bidding.

Budget Category (d): Construction/Implementation

Task 8: Construction Contracting:
Construction will be contracted for Leland Gully, Culvert Maintenance, Bloomer Lake, Bluff, Groundhog, Upper and Middle Three Meadows. Coyote Meadow will be implemented by Stanislaus National Forest staff and will not require contracting.
8.1 Construction Contracting Leland Gully: Completed 8/2010.
8.2 Construction Contracting Culvert Maintenance: Expected to be completed prior to grant award date.
8.3, 8.4 Construction Contracting Bloomer Lake, Bluff & Groundhog Meadows and Upper & Middle Three Meadows: Construction will be advertised for bids. Bids will be evaluated and final contracts will be awarded. Volunteer agreements will be completed.
Deliverables: Notice of Award issued to contractors. Signed volunteer agreements.

Task 9: Construction:
9.1 Construction Leland Gully: Completed 9/2012.
9.2 Construction Culvert Maintenance: Expected completion before grant award date.
9.3 Construction Coyote Meadow: USFS trail crew will decommission existing trail through meadow and construct a new section of trail around the meadow that does not impact aquatic features. Trail crew will also stabilize meadow headcuts.
9.4, 9.5 Construction Bloomer Lake, Bluff & Groundhog Meadows and Upper & Middle Three Meadows: Construction in these meadows will be performed by contractors, Forest staff and volunteers. For Upper & Middle Three Meadows, contracted heavy equipment work is anticipated to include salvage of existing vegetation from the bottom and sides of the gully, fill the gully with soil to raise the stream bed elevation, shape the channel like a swale to mimic natural sinuosity, install rock grade stabilizers in intervals to arrest potential headcut development, replant stockpiled vegetation, and mulch bare ground. All or components of this contracted heavy equipment work may be implemented at Bloomer Lake, Bluff and Groundhog Meadows to stabilize headcuts. This is dependent upon ground conditions, access and final project design. Forest staff and volunteers will complete work related to native plant revegetation and minor channel stabilization.
Deliverables: Construction photos.

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

No tasks anticipated. Environmental enhancement is a primary goal of the project and additional mitigation will not likely be required. Construction will follow Forest Best Management Practices (BMP's) and additional management requirements identified during the environmental analysis process.

Budget Category (f): Construction Administration

Task 10: Construction Administration:
10.1 Construction Administration Leland Gully: Completed 9/2012.
10.2 Construction Administration Culvert Maintenance: Expected completion before grant award date.
10.3, 10.4, 10.5 Construction Administration Coyote, Bloomer Lake, Bluff, Groundhog and Upper & Middle Three Meadows: Stanislaus National Forest specialists, including hydrologist and biologist, will provide oversight during construction implementation to ensure that designs are correctly implemented in compliance with Best Management Practices and management requirements to avoid resource damage. Contract administration will include orienting staff and contractors to the specific work they are undertaking, field inspections of all work by the project manager, reviewing contractor invoices, and ensuring proper payment for contracted tasks.
Deliverables: Construction photos.

Budget Category (g): Other Costs or Activities

Task 11: Permitting:

Permits are required for Leland Gully and Coyote, Bloomer Lake, Bluff, Groundhog, Upper and Middle Three Meadows. No permits are required for Culvert Maintenance.

11.1 Permitting Leland Gully: Completed 4/2010.

11.2, 11.3, 11.4 Permitting Coyote, Bloomer Lake, Bluff, Groundhog, Upper and Middle Three Meadows: These components will require Section 401 water quality certification (Central Valley Regional Water Quality Control Board) and a Section 404 permit (U.S. Army Corps of Engineers). An NPDES permit will be required for Upper and Middle Three Meadows as the area of ground disturbance will exceed 1 acre. These permits have yet to be secured for this project, but the Stanislaus National Forest has successfully obtained such permits for previous projects. Hydrologists, soil scientists and botanists will complete wetland delineations as required for the 404 permits.

Deliverables: Copies of permits.

Budget Category (h): Construction/Implementation Contingency

Task 12: Construction Contingency:

A contingency of 10% of requested implementation/contingency funds has been applied.

Deliverables: None.

4. Other Required Information

Procedures
After the Stanislaus National Forest has been notified of award of a grant, the Forest will work with the Tuolumne County Resource Conservation District to mutually develop a collection agreement that will allow the Forest to receive grant funding and accomplish the grant objectives. This will be based on Grants and Agreements procedures as defined by the Department of Water Resources grant agreement and consistent with the Forest Service Directive System. The TCRCD will act as overall grant administrator and manager for all eight project proponents. As such the TCRCD will have a strong leadership role in coordinating administrative functions with the other Agencies. The TCRCD will prepare a standard MOU for signature by the other grant participants that will be finalized once grant funding is secured (a draft is already in preparation).

Standards
Standard language in federal contracts includes the following, "the Contractor shall comply with all applicable Federal, state, and local laws, executive orders, rules and regulations applicable to its performance under this contract." In addition, there are laws that are unique to government contracts which would be followed, including the Contract Work Hours and Safety Standards Act.

All work by Stanislaus National Forest personnel will follow directives outlined in the Stanislaus National Forest Safety Plan which includes preparation of project specific Job Hazard Analyses to identify and mitigate potential hazards. Contractors will be required to submit and adhere to a safety plan that will be evaluated and approved by the Forest Service Contracting Officer.

The beneficial uses of water in the watershed are protected by Best Management Practices (BMPs), which prevent or minimize the threat of discharge of pollutants of concern. BMPs relating to implementation are described below.
BMP 2.11 - Equipment Refueling and Servicing: Prevent fuels, lubricants, cleaners, and other harmful materials from discharging into nearby surface waters or infiltrating through soils to contaminate groundwater resources. Techniques include, but are not limited to, designating fueling sites outside of the riparian area and limiting staging of materials and equipment.
BMP 2.13 - Erosion Control Plans: Effectively limit and mitigate erosion and sedimentation from ground-disturbing construction and restoration activities, through planning prior to commencement of project activity, and through project management and administration during project implementation.
BMP 7.1 - Watershed Restoration: Repair degraded watershed conditions, and improve water quality and soil stability. Effectiveness of the restoration measures used will be monitored by project proponents. Physical, hydrological, biological, or aquatic indicators of deteriorated conditions will be the focus of the monitoring effort.
BMP 7.7 - Management by Closure to Use (Seasonal, Temporary, and Permanent): Exclude activities that could result in damages to either resources or improvements, such as roads and trails, resulting in impaired water quality. This BMP applies to the Coyote Meadow trail reroute only.
BMP 7.8 - Cumulative Off-Site Watershed Effects: Protect the identified beneficial uses of water from the combined effects of multiple management activities which individually may not create unacceptable effects, but collectively may result in degraded water-quality conditions. CWE susceptibility evaluations and development of mitigation measures are accomplished through the environmental documentation process, using an interdisciplinary approach.

Development of Monitoring Plan and Quality Assurance Project Plan

The Stanislaus National Forest will prepare a Monitoring Plan in accordance with requirements established by DWR's grant agreement and required project permits. Monitoring will be based on performance measures described in Attachment 6. Monitoring methodology to be included in the Monitoring Plan has proven successful at evaluating project treatment effectiveness and overall success of stream and meadow restoration progression on previous projects on the Stanislaus National Forest.

Status of Acquisition of Land or ROWs
No land acquisition or rights of way are required. All project activities will occur on existing Stanislaus National Forest Lands.

Permits
Task 11 describes the permits that will be required for this project. Meadow restorations in Coyote, Bloomer Lake, Bluff, Groundhog, Upper and Middle Three Meadows will require Section 401 water quality certification (Central Valley Regional Water Quality Control Board) and a Section 404 permit (U.S. Army Corps of Engineers). A-National Pollutant Discharge Elimination System (NPDES) permit will be required for Upper and Middle Three Meadows as the area of ground disturbance will exceed 1 acre. These permits have yet to be secured for this project, but the Stanislaus National Forest has successfully obtained such permits for previous projects. Stanislaus National Forest hydrologists, soil scientists and botanists will complete wetland delineations as required for the 404 permits.

Status of Preparation and Completion of Environmental Requirements
Task 6 describes the status of environmental documentation for this project. Construction will follow Forest Best Management Practices (BMP's) and additional management requirements identified during the environmental analysis process.

Submittals to Granting Agency
Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Design Plans and Specifications
Plans and specifications will be prepared as part of the contract documents for meadow restoration and culvert maintenance. Task 7 describes the status of design work.

Tuolumne County Resource Conservation District Small Parcel Storm Water Pollution Prevention and Landowner Stewardship Program (T-S IRWM Project No. 16)

Tuolumne County Resource Conservation District
Contact:
Lindsay Rosasco
(209)984-0500
Lindsay@TCRCD.org

Program Preferences
- ☑ Include Regional Projects/Programs
- ☑ Integrate water management within hydrologic region
- ☐ Effectively resolve significant water related conflicts within or between regions
- ☑ Contribute to attainment or one or more objectives to CALFED
- ☐ Address critical water supply/quality needs of DAC
- ☐ Effectively integrate water management with land use planning
- ☐ Flood Management -projects that provide multiple benefits

Statewide Priorities
- ☐ Drought preparedness
- ☐ Use and reuse water more efficiently
- ☐ Climate change response actions
- ☑ Expand environmental stewardship
- ☐ Practice integrated flood management
- ☑ Protect surface water and groundwater quality
- ☐ Improve tribal water & natural resources
- ☑ Ensure equitable distribution of benefits

CALFED Primary Objectives
- ☑ Ecosystem quality
- ☐ Water supply
- ☑ Water quality
- ☐ Levee system integrity

1. Executive Summary

a. Project Synopsis

This project is designed to resolve site-specific nutrient, sediment, and pathogen discharges into the Stanislaus and Tuolumne River watersheds from small privately owned parcels with confined livestock – particularly horses. The proposed project utilizes an incentives based approach to achieve the cultural change needed for livestock facilities to voluntarily adopt management measures that improve the healthy functioning of watershed. This is the initial step in what the Tuolumne County Resource Conservation District (TCRCD) envisions as an on-going self-sustaining program related to land stewardship for small acreage landowners. The objectives are: to increase the knowledge base of small acreage landowners in Tuolumne County and to implement cost-efficient Best Management Practices (BMP's) that result in direct reductions of turbidity, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), nutrients and bacteriological pathogens from storm water flows into the Tuolumne and Stanislaus Rivers.

This project is essentially a "roll-out" of the Ecology Action/Monterey RCD "Livestock and Land Program" as developed for statewide expansion under past RWQCB grants, but will focus primarily on smaller acreage landowners within our IRWM Region. Appendix 3-B (Att3_IG2_TuolStan_WorkPlan_3of5) provides a summary of the program and screenshots from their webpages.

Water quality goals will be achieved through implementation projects, project design, technical assistance and recruitment and training. High quality implementation projects will be developed utilizing the technical assistance of Natural Resource Conservation Service (NRCS), University of California Cooperative Extension (UCCE), TCRCD Board members, and other project partners to develop site plans and project designs.

This project will focus initially on landowners within the upper Phoenix Lake sub-watershed of the Upper Tuolumne River Watershed, but will be available County-wide in both the Stanislaus and Tuolumne watersheds, inclusive of many DAC census places and tracts.

The project will include: 1. Establishment of a local library of resources and reference materials from other successful similar programs from throughout the United States; 2. An Education and Outreach program that will include locally relevant materials that will be used for ongoing technical assistance to landowners; 3. Five Public Workshops that will include topics such as managing mud, manure, and runoff; design and installation of BMP's; water quality and livestock owner responsibility; reducing erosion; pasture and paddock management; selecting appropriate plants; and keeping pastures green; 4. Technical assistance to landowners where an TCRCD Technical Advisor would visit

sites to assess and prioritize needed improvements with property owners; 5. A cost share assistance program for small parcel owners that do not qualify for NRCS programs; 6. Implementation and Construction of appropriate BMP's at a minimum of five priority sites; and, 7. Water quality performance evaluations by the TCRCD Citizen Volunteer Stream Team and development of a regional water quality database.

Additionally, TCRCD will also provide overall regional grant administration duties in order to provide an efficient regional framework for grant management. The agreement will support and meet the objectives and requirements of the state of California and the Tuolumne-Stanislaus region and to provide a centralized contract administration with uniform accounting, reporting, and compliance protocols for multiple DWR funded projects.

b. Project Benefits

Water Quality

This project is designed to resolve site-specific nutrient, sediment, and pathogen discharges into the Stanislaus and Tuolumne River watersheds from small privately owned parcels. The proposed project will provide water quality benefits by utilizing an incentives based approach to achieve the cultural change needed to voluntarily adopt management measures that improve the healthy functioning of watershed.

<u>Secondary Benefits of water quality include:</u>
The project will protect shallow groundwater aquifers in the project area by reducing nitrate contamination from the exposure of manure to rainfall.

With decreased concentrations of sediments in surface water sources, there may be potential decreased costs of ongoing maintenance and filter replacement for the local domestic water supply infrastructure associated with Phoenix Lake.

Project demonstration sites and educational outreach will improve local flood management through installation of site-specific stormwater control and treatment improvements, which have been proven to directly reduce stormwater flows into adjacent waterways and provide runoff treatment and infiltration areas.

The proposed projects surface water quality improvements, from practices that will help reduce nutrient, sediment, and pathogen levels, may benefit habitat improvement for regionally important listed and special status species such as California red-legged frog, foothill yellow-legged frog, western spadefoot toad, various raptors such as osprey and Coopers hawk, and riparian mammals such as ringtail.

c. Cost and Schedule

Grant funding requested under Proposition 84 for implementation of the TCRCD Small Parcel Storm Water Pollution Prevention and Landowner Stewardship Program is approximately $255,000. TCRCD Board members and the TCRCD Stream Team water quality monitoring volunteers will provide an additional $90,000 of in kind support to provide the estimated total cost of approximately $340,000.

CEQA review is complete, as the project was found to be Exempt in December 2011. Initial collection of library and resource materials has begun and is expected to be completed in late spring 2014.

2. Proposed Work

Project Description:

The project is envisioned to include seven (7) major components:

1. Assemble and Develop Library References – Staff from the TCRCD will continue to assemble and organize an on-site and on-line library of resources and reference materials from other successful similar programs from throughout the United States. The Library will include fact sheets and publications related to small parcel land management including managing mud, manure, roof runoff, drainage, etc. This will be an ongoing effort, with updated materials constantly added to the library as they become available. The majority of materials are expected to be collected and cataloged within 3 to 6 months of project award.
2. Develop Education and Outreach Program – Staff from the TCRCD will develop an Education and Outreach (EO) program that can be updated as needed. The program will include development of locally relevant presentation materials that can be used for ongoing technical assistance to landowners and for workshops. TCRCD staff will develop locally relevant fact sheets and materials for use by local landowners and the Technical Assistance team based on the existing Livestock and Land and Living on the Land Programs. Specifically, support materials will include displays, brochures, Fact sheets, self-assessment worksheets and BMP standards. A workshop series will be developed, following outlines of similar successful programs, that will include topics such as managing mud, manure, and runoff; design and installation of BMP's; water quality and livestock owner responsibility; reducing erosion; pasture and paddock management; selecting appropriate plants; and keeping pastures green. The baseline program can be developed within 9 months after project award.
3. Workshops (5) – We will conduct at least twenty (20) hours of technical assistance training throughout the region, which will most likely be delivered by hosting five 4-hour technical training workshops that will include topics such as managing mud, manure, and runoff; design and installation of BMP's; water quality and livestock owner responsibility; reducing erosion; pasture and paddock management; selecting appropriate plants; and keeping pastures green. In order to ensure coverage of the IRWM Region staff from the TCRCD will conduct five workshops in Tuolumne and Calaveras Counties specifically designed for small parcel landowners – at least one of which will be focused on the upper Phoenix Lake watershed, and at least one of which focused on a DAC Community such as Groveland or Jamestown. In order to cover the entire IRWM Region, one workshop will be scheduled in the Copperopolis area of the Little John Creek watershed. It is expected that participants would desire technical assistance from the TCRCD staff and may participate in the demonstration project – cost share program. Workshops would be initiated within 12 months of project award and all 5 would be completed within three years. (It is our intention to continue this program indefinitely beyond the life of this grant award but this would require additional future funding sources not identified at this time).
4. Landowner Technical Assistance – Staff from the TCRCD will provide ongoing non-regulatory, voluntary technical assistance to landowners solicited through workshops, Public Service Announcements, word-of-mouth and other outreach through office visits, site visits and evaluations, and BMP recommendations. An TCRCD Technical advisor will visit sites to assess and prioritize needed improvements with site owners. The TCRCD Technical advisor will be key to implementing on-the-ground projects and would be available throughout the life of the project.
5. Demonstration Cost-share Program Development – Staff will develop a voluntary, non-regulatory cost share assistance program for small parcel livestock owners and boarding facilities that do not qualify for NRCS Environmental Quality Incentive Program (EQIP) or Wildlife Habitat Incentive Program (WHIP), and who wish to implement projects on their property that improve water quality. An advisory committee will be formed consisting of TCRCD Board members, NRCS and Cooperative Extension staff and others to develop criteria and assess applications as they come in. It is anticipated that criteria for selecting sites

would include: Potential for improvement with regards to degree of impact on water quality; Cost of needed improvements; Level of site owners monetary match; Level of visibility for fellow livestock owners; and feasibility of accommodating a small group onsite. Upon completion of site visits, Technical Advisors would meet with the Program Advisory Committee to develop a final list of properties to be chosen for Demonstration Site funding. Additional consideration will likely be awarded to individuals who have attended a workshop series. These demonstration sites can be living classrooms and a valuable resource to the community. They provide the opportunity for people to see firsthand the implementation process, installation techniques and real life accounts of the projects successes and/or challenges. Landowner maintenance of the installed BMP's would be a requirement of the program.

6. Demonstration/Pilot Projects - Up to 5 priority BMP implementation sites (an estimated 50 to 100 total acres) will be selected among livestock facility applicants to implement water quality projects. Specific BMP's implemented, and water quality improvements will vary based on site need and projects selected and will be designed by the Technical Advisors, Advisory Committee and consultants as necessary. These may include practice changes or infrastructure improvements. Example BMP's include: use of vegetative swales and buffer strips, manure bunkers and other containment practices, installation of gutters, road and trail improvements, reestablishment of vegetation, and taking high use areas off line in winter. Implementation sites will achieve water quality protection and serve as classrooms, training opportunities and a permanent local resource for the community. BMP's will be designed to meet NRCS service life standards.
7. Water Quality Testing/Database Development - The TCRCD has an established volunteer citizen water quality monitoring program; the Stream Team. The program currently monitors twenty six sites in Tuolumne County in the Stanislaus and Tuolumne river watersheds. The data that has been collected to date has been and will be used to identify priority locations form demonstration sites (see 6 above) as well as establish a baseline understanding of existing water quality conditions throughout both watersheds. This will provide the TCRCD a reference point from which to monitor effectiveness of the demonstration sites. The sites are monitored monthly for temperature, pH, electrical conductivity, dissolved oxygen, total coliform, and *E. coli*. The program and its volunteers will be utilized in the Small Parcel Storm Water Pollution and Land Stewardship Program to test pre and post water quality levels near the BMP implementation project sites. The data that is collected both pre and post project will be compiled and reported by TCRCD throughout the length of the program. In addition to current Stream Team and proposed project site evaluations, TCRCD will develop a regional water quality data base in Microsoft Access that will contain the data from previous years and ongoing sampling. Data will be submitted per CEDEN data templates.

Similar Successful Projects. This project is based on proven and successful programs implemented throughout the country such as: Sustainable Agriculture Research and Education (SARE) and University of Nevada Cooperative Extension's "Living on the Land" program; Ecology Action and Monterey County RCD's "Livestock and Land" program; Connecticut's "Horse Environmental Awareness Program (HEAP)"; Mendocino RCD's "Land Smart" Program; and Rhode Island Extension's Program "Healthy Landscapes" Appendix 3-B (Att3_IG2_TuolStan_WorkPlan_3of5) provides screenshots and sample program documents including previously developed site selection criteria and an example workshop Powerpoint presentation.

The proposed project includes both outreach and implementation.

Goals and Objectives:
The purpose of this project is to develop a program to achieve immediate and lasting reductions in nutrient, sediment and pathogen pollution to surface and ground waters in the Tuolumne and Stanislaus River watersheds through implementation of BMP's on small acreage livestock facilities in Tuolumne County.

The project entails development of a locally relevant, full program of affordable BMP and "Low-Impact Development" (LID) management practices that reduce sediment load and other pollutants from small rural parcels, especially those with confined livestock.
The primary goal of this project is to reduce nonpoint source (NPS) sediment and pathogen related pollution in the Stanislaus and Tuolumne River watersheds. This will be accomplished by engaging a portion of the community, small acreage landowners with significant potential to adversely impact water quality throughout these two watersheds. This community is outside of the traditional support network for agriculture and therefore will benefit from targeted education and outreach (EO) and more importantly, implementation of hard and softscape improvements to their properties.
Additionally this project will:

- Integrate public participation into the project by leveraging the existing equine community to provide targeted outreach to their peers. Targeted outreach is proven more likely to result in behavioral change than simply developing and making available educational materials.
- Facilitate the use of sustainable best management practices that will result in reductions in nonpoint source pollution, resulting in benefits to aquatic biological resources and habitat and human health.
- Support existing and future restoration efforts by reducing nonpoint source pollution impacts that have the potential to slow or counteract the recovery of injured natural resources (i.e., surface and ground water) and negatively impact the sustainability of restoration efforts.
- Benefit aquatic biological resources and environmental education and outreach through a maintenance-based project that both addresses water quality improvements and provides environmental education outreach to promote public awareness and stewardship of the ecology of the Stanislaus and Tuolumne River watersheds.

Purpose and Need:
Throughout the country, small parcels and especially small livestock facilities have been confirmed as sources discharging nutrients, sediments and pathogens to surface and ground waters. In Tuolumne County, these parcels ultimately drain into the Stanislaus and Tuolumne Rivers. The Tuolumne County Foothill Watershed Assessment identified runoff from unvegetated portions of properties, driveways, corrals, and sites under development as contributors of sediment and bacteriological pathogens to the local and regional stream systems.

Four creeks within the IRWM Region have been listed on the USEPA CWA Section 303(d) list of "Impaired Waterbodies": Sullivan Creek, Curtis Creek, Woods Creek, and Littlejohns Creek. Each have *E coli* listed as the pollutant, with the sources unidentified. Total Daily Maximum Load's (TDML) have not been finalized for these creeks. Additionally, Hetch Hetchy, New Melones, Tulloch, and Don Pedro Reservoirs have also been listed, with the primary pollutant identified as mercury. Potential sources are identified as "resource extraction." The lower Stanislaus and Tuolumne Rivers are also listed with numerous pollutants identified.

The activities in this project will specifically address pathogen pollutants within the four impaired creeks through outreach and education and through direct implementation of appropriate BMP's on small livestock parcels. Project activities will also positively affect water quality within the listed reservoirs and the lower Stanislaus and Tuolumne Rivers.

Existing Beneficial Uses for both the Stanislaus and Tuolumne Rivers are generally identified in the Basin Plan as Municipal, Agricultural, Recreational, Freshwater Habitat and Wildlife Habitat. Both watersheds drain into the San Joaquin River and ultimately into the Bay-Delta area. These upper watersheds are the drinking water sources for numerous municipal entities both within and outside of Tuolumne County. Increased nutrient,

sediment and pathogen loads from small parcels are both historic and ongoing point and nonpoint sources of discharges in both watersheds that have impacted surface and ground waters in the region. Animal wastes may produce significant amounts of coliform, ammonia, nitrate, and TDS contamination. Direct runoff from animal confinement facilities can significantly increase turbidity.

Implementation of BMP's on small parcels will directly reduce TSS, TDS, nutrients and bacteriological pathogens from storm water flows into the various drainages within the Tuolumne and Stanislaus River watersheds, including the CVP's New Melones Reservoir and Tulloch Lake on the Stanislaus River and Don Pedro Reservoir on the Tuolumne River. This project would directly meet the objectives of the Tuolumne-Stanislaus IRWM Plan by reducing the negative impacts of stormwater, urban runoff, and nuisance water (Objective B); Improving watershed health in support of increased water yield closer to that common to natural systems (Objective D); and, Assisting in the protection and recovery of sensitive special status, threatened, culturally sensitive, and endangered native aquatic and other water dependent species in the region (Objective F). Enhancement of ecosystem and surface water quality and expansion of environmental land stewardship also meets stated Statewide Priorities and CALFED primary objectives.

Additionally, the project meets California Water Plan Update 2009 Resource Management Strategies including Improvement of Water Quality through Pollution Prevention and Urban Runoff Management, Practicing Resources Stewardship through Agricultural Lands Stewardship, Economic Incentives (Loans, Grants, and Water Pricing), Recharge Area Protection and Watershed Management

Additional secondary benefits related to surface water quality improvement include potential decreased costs of ongoing maintenance and filter replacement for the local domestic and DAC water supply infrastructure associated with Phoenix Lake as well as habitat improvement for regionally important listed and special status species such as California red-legged frog, foothill yellow-legged frog, western spadefoot toad, various raptors such as osprey and Coopers hawk, and riparian mammals such as ringtail. Water quality improvements in the upper San Joaquin River hydrologic region can also directly result in water quality enhancement of the San Joaquin River and the Delta. Measurable decreases in bacteriological pathogens in local surface waters will also provide significant benefits for human health.

Integrated Elements of Projects:

The initial project efforts will be focused on Tuolumne County's primary drinking water supply sub-watershed – the upper Phoenix Lake area. Phoenix Lake is the Tuolumne Utilities District's primary water storage facility to supply drinking water to Sonora, Jamestown, Columbia, (all DAC's) and the surrounding areas. The Sullivan Creek (Phoenix Lake) watershed has been developed in the past with numerous small parcel subdivisions, many of which are home to confined livestock, and many of which have been direct contributors to the existing and ongoing sediment and pathogen problems within Sullivan Creek, adjacent surface waters and Phoenix Lake itself. The Twain Harte and Mono Vista DAC Census Places are also located within the Sullivan Creek sub watershed. The need for TUD's Phoenix Lake Preservation and Restoration project to dredge and enhance storage capacity within Phoenix Lake is a direct result of surface water contamination and siltation from upstream sources. Implementation of on-the-ground BMP's to reduce sediment and pathogen loads from small privately-owned parcels upstream of this critical water storage facility is necessary to reduce future maintenance and enhancement costs and will provide direct and immediate benefit to the storage facility's water quality.

Phoenix Lake (and TUD) also derives its supply from the South Fork of the Stanislaus River – through Lyons Reservoir. The Stanislaus National Forest's Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project will also contribute to enhancement of water quality within Phoenix Lake.

The integration of the Forest Service and TCRCD programs (two upstream water quality enhancements) with TUD's Phoenix Lake enhancement and the Amador-Tuolumne Community Action Agency's and Tuolumne River Trust's Water Conservation Programs ensure that Phoenix Lake can remain a viable and sustainable water storage facility for Tuolumne County in the future, and that ongoing maintenance and potable water treatment costs can be reduced.

Completed Work:
This project was found to be *Exempt* from the California Environmental Quality Act by the TCRCD acting as Lead Agency. A Notice of Exemption was filed with the Tuolumne County Clerk and mailed to the State Clearinghouse on November 21, 2011. (Task 7)

TCRCD has also begun the process of collecting library resources (Task 6) and has an existing Outreach and Education Program that can be used as a format for Project Outreach (Task 8)

Existing Data and Studies:
In 2007, TCRCD conducted a survey of residents within the District to determine what specific resource conservation issues were of highest priority in the District. If the TCRCD had only enough time and money to work on one issue, "Water Quality" ranked far above all others. Providing technical assistance to landowners and providing conservation education and outreach on agricultural & resource issues were identified as the most important role the TCRCD should play in the community.

The primary reports that have identified the need for the program include:

- County of Tuolumne, 2007. *Water Quality Plan*
- County of Tuolumne, 2007. *Tuolumne County Foothill Watershed Assessment*
- TCRCD. 2007 through 2009. *Stream Team Water Quality Monitoring Report*

See Appendix 3-B (Att3_IG2_TuolStan_WorkPlan_3of5)

Numerous documents and existing programs that have successfully demonstrated the feasibility and technical methods to be employed including the following:

References

Blickle, Alayne Renée, 2003. *Horses for Clean Water*
Council of Bay Area Resource Conservation Districts *. 2001. Horse Keeping: A Guide to Land Management for Clean Water.*
Florida Department of Agriculture and Consumer Services, 2011. *Water Quality/Quantity Best Management Practices for Florida Equine Operations,*
Oregon State University Extension Service, 2003, *Managing Small Acreage Horse Farms for green pastures, clean water and healthy horses*
Private and Public Entities in Orange and San Diego Counties, California, 2004. *Equestrian-Related Water Quality Best Management Practices*
Southern Sonoma County Resource Conservation District, Creek Care, 2012. *A Guide for Rural Landowners and Residents of Petaluma and Sonoma Creek Watersheds*
University of Nevada Cooperative Extension, 1995. Small Ranch Manual, *A Guide to Management for Green Pastures and Clean Water*
US Department of Agriculture, Natural Resource Conservation Service, *Field Office Technical Guides*

Programs (beyond those listed in the Goals and Objectives section above):

Small Farms Program, Oregon State Univ.
Small Acreage Program, Utah State Univ.
Small Farms Team, Washington State Univ.
Small Acreage Management, Colorado State University Cooperative Extension
Barnyards and Backyards, Univ.of Wyoming
Project Clean Water, Co. of San Diego, et al
Equine Facility Program, Alameda Co. RCD

Project Map:
A map of the privately held parcels between 1 and 20 acres within Tuolumne County is provided as Figure 3-7. A map of the privately held parcels between 1/2 and 20 acres within the Sullivan Creek (Phoenix Lake) watershed inclusive of DAC boundaries is provided as Figure 3-8. Demonstration/Pilot Project sites will be drawn from these parcels.

Project Timing and Phasing:
This project is a stand-alone project and does not require subsequent phases to be successful. The project will be complete within 4 years as shown in the project schedule. It is, however, the initial step in what the TCRCD hopes will be an on-going and hopefully self-sustaining program of local small acreage technical assistance and stewardship that can expand to serve more individual landowners than will be served in the first four years. Implementation of subsequent projects is not necessary for successful completion of this particular project.

Figure 3-7

Tuolumne-Stanislaus IRWM Region

Tuolumne County Resource Conservation District - Project Location

Private Parcels 1-20 Acres Within Tuolumne-Stanislaus IRWM Region

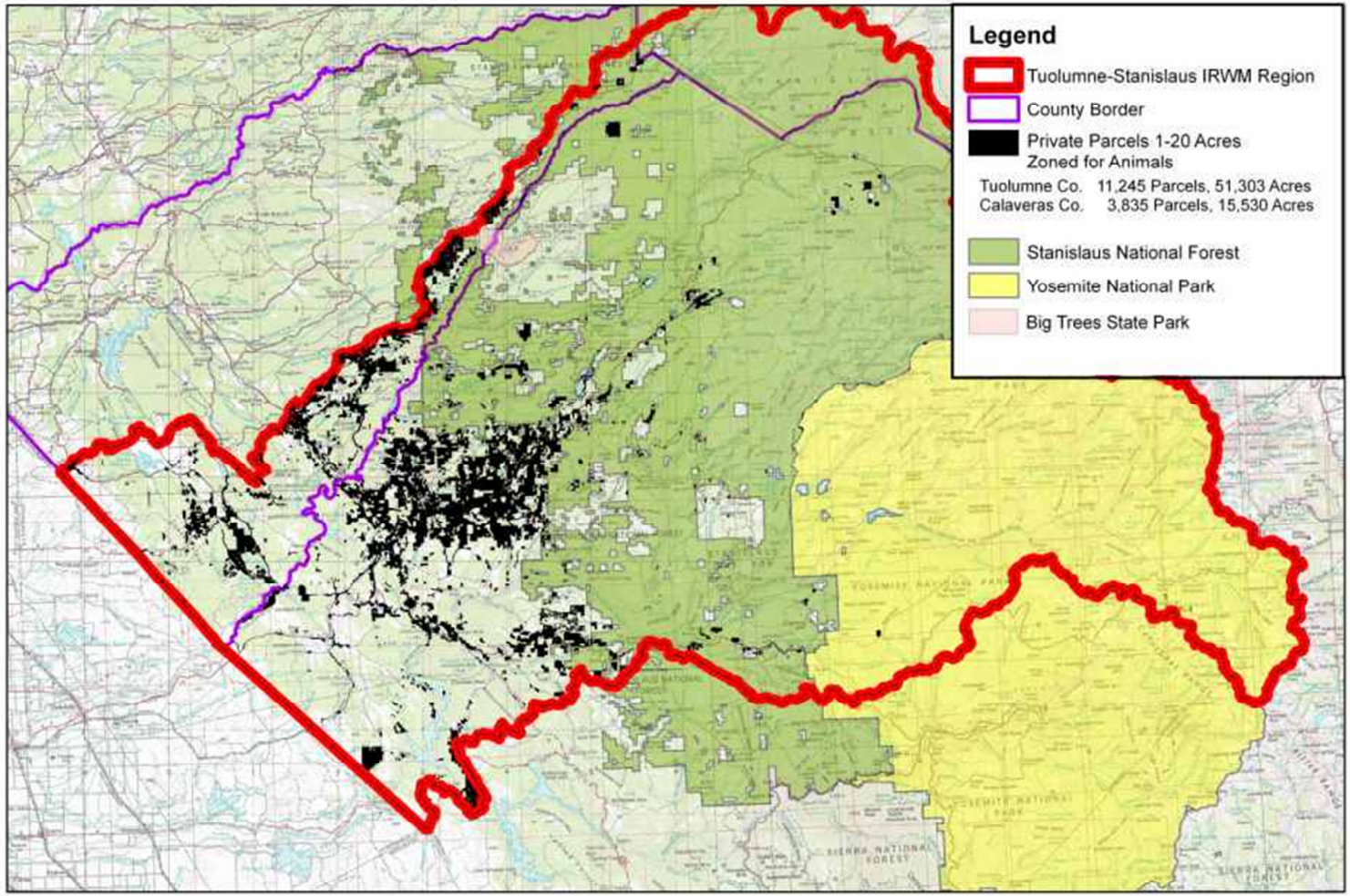
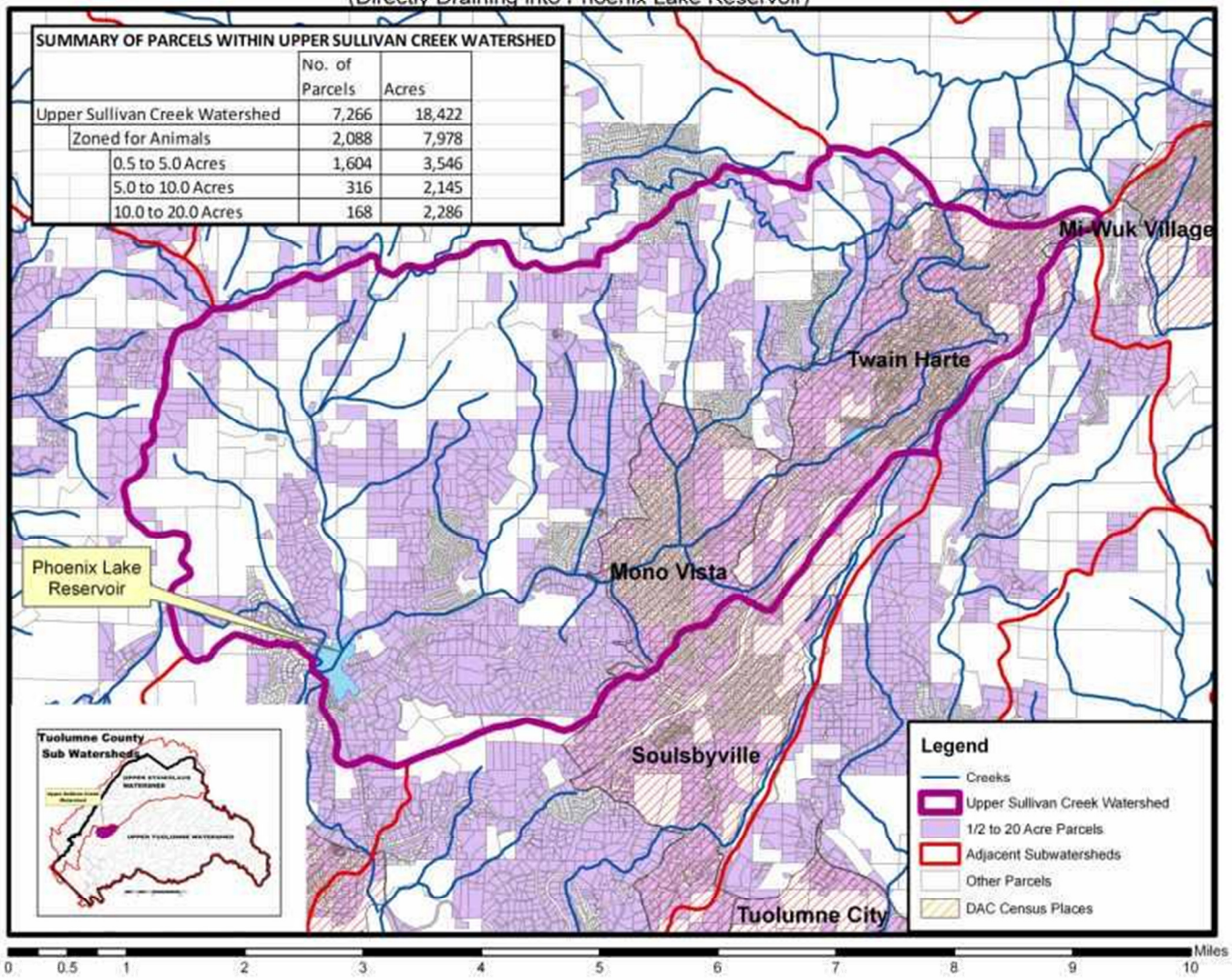


Figure 3-8

Tuolumne Stanislaus IRWM Region

0.5 to 20 Acre Parcels within the Upper Sullivan Creek Watershed
(Directly Draining into Phoenix Lake Reservoir)



3. Work Plan Table

Tasks necessary to implement the TCRCD Small Parcel SWPPP and Landowner Stewardship Program are described in Table 3.

Table 3: Work Plan for TCRCD Small Parcel SWPPP and Landowner Stewardship Program

Category (a): Direct Project Administration
Task 1: Administration: **1.1 Project Tracking** **1.2 Invoicing** **1.3 Quality Control & Project Oversight** **1.4 Regional Grant Administration** Description: Provide Project-related Task & Expenditure Tracking, Prepare and submit invoices, provide overall project management and quality control. TCRCD will also be responsible for overall Regional Grant Management and Administration (costs for which have been incorporated into each separate project per DWR staff recommendations) Activities incorporated into this task include Regional MOU Preparation, DWR Contract Preparation, Project Set-up, Performance Measures & Project Performance Plan Development, CEQA / NEPA Compliance Document Coordination, Permit Documentation Coordination, Deliverables Coordination, Document and Data Management, Regional Quarterly Reports & Submittal Coordination, Project Invoice Management, Final Report coordination and submittal, and Banking and Payment Dispersal. Deliverables: Invoices & back-up information as required by the grant.
Task 2: Labor Compliance Program: Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Deliverables: Execution of labor compliance program as necessary; documentation furnished to DWR as requested.
Task 3: Reporting: **3.1 Quarterly Reports** **3.2 Final Report** Description: Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Budget Category (b): Land Purchase/Easement
Task 4: Right-of-Way Acquisition: Description: All Demonstration/Pilot projects will be constructed on small privately owned parcels within Tuolumne County. TCRCD will not acquire any easements or rights-of-way for construction activities but will verify landownership as part of the site selection process. Deliverables: None
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 5: Assessment and Evaluation: A Project Assessment and Evaluation Plan, Monitoring Plan, and Quality Assurance Project Plan (QAPP) will be prepared and submitted to DWR as necessary and appropriate. A Data Management program will be incorporated into the overall project. Deliverables: Monitoring Plan and QAPP, as appropriate
Task 6: Assemble and Develop Library References : **6.1 Assemble & Print Materials** **6.2 Catalog & Index** **6.3 Develop On-line library**

Description: TCRCD will establish a local library of resources and reference materials from other successful similar programs from throughout the United States including fact sheets and publications related to small parcel land management including managing mud, manure, roof runoff, drainage, etc.
Deliverables: Annotated and Indexed Bibliography of Reference Materials available at the TCRCD Office and online

Task 7: CEQA/NEPA Documentation
Description: TCRCD determined that this project is categorically exempt from CEQA. A Notice of Determination was filed with the State Clearinghouse and County Clerk Recorder in December 2011. (Clearinghouse Number: 2011118198) Completed.
Deliverables: Notice of Determination.

Task 8: Develop EO and Training Program:

8.1 Modify Materials for Local Relevance
8.2 Develop Workshop Curriculum & Materials, Scheduling and securing Presenters and Locations
8.3 Develop PSA & News Releases
8.4 Develop Presentation and Poster Board Materials
8.5 Develop Landowner Self Assessment Worksheets
8.6 Web Site & Library Update
8.7 Implement EO Program, Advertise Workshops

Description: TCRCD will initiate an Education and Outreach program that will include locally relevant materials that will be used for ongoing technical assistance to landowners and for workshops. TCRCD will utilize materials collected in Task 6 and make appropriate modifications as required to make the materials locally relevant. TCRCD will work with Ecology Action and Monterey and Santa Cruz RCD's to develop the materials.

- We will develop a series of workshop trainings addressing key water quality issues to be conducted in the region. This task is inclusive of preparing technical training materials to support the trainings and creating agendas for workshops and presentations on the impact of livestock facilities on water quality. Topics to include BMP's for manure management, mud/dust control, healthy pasture and paddock management for effective erosion control, site planning etc.
- This task includes identifying and securing the sites to host the workshops. It additionally includes outreach for workshop participation through attending local livestock meetings/outreach events to promote the trainings, advertising at local feed/tack stores via posters and flyers, partnering with appropriate agencies for direct mailings i.e. local water districts and Horseman's Association newsletters, and posting all information on websites and in Community Calendars.
- This task also includes scheduling presenters inclusive of regional, statewide and local area professionals knowledgeable on the above topics and national experts like Horses for Clean Water or Ecology Action. Deliverables: Presentation Materials, Posterboards, On-line and Newspaper articles, brochures, technical papers, radio and television PSA's.

Task 9: Demonstration Cost-share Program Development:

9.1 Formation of Advisory Committee
9.2 Development of Selection Criteria
9.3 Initial Advisory Committee Meeting/Training

Description: TCRCD will develop a cost share assistance program for small parcel owners that do not qualify for NRCS programs. A Technical Advisory Committee (TAC) will be formed consisting of TCRCD Board members, NRCS and Cooperative Extension staff and other area professionals educated on water quality issues as they relate to livestock facilities to develop criteria and assess applications as they come in. Develop ranking criteria for the region based on the protection of water quality and beneficial uses, regional distribution of applicants, and location relative to waterbodies of concern (i.e. 303(d) listed and

priority areas identified in project planning) for prioritizing management practices and demonstration site applicants.
Deliverables: List of TAC members, Property Assessment Forms, Project Ranking Criteria

Budget Category (d): Construction/Implementation

Task 10: Workshops:
Description: TCRCD will conduct at least 20 hours of training through five community workshops (at least one of which will be within a DAC Community and one will be focused on the upper Phoenix Lake watershed) following outlines of similar programs, that will include topics such as managing mud, manure, and runoff; design and installation of BMP's; water quality and livestock owner responsibility; reducing erosion; pasture and paddock management; selecting appropriate plants; and keeping pastures green.

- We will document all trainings with notes and photos, recruit implementation site participation via distribution of applications, and survey participants at the end of each training to assess satisfaction and learning, as well as to obtain feedback about trainings.

Deliverables: Copies of Advertisements, Dates of Workshops, Lists of Attendees, Photo Documentation

Task 11: Technical Assistance (Assessments):

11.1 Advertise Availability of Technical Assistance
11.2 Develop Property Assessment Form
11.3 Site Visits
11.4 Follow-up Property Assessment & BMP Recommendations

Description: TCRCD will provide ongoing voluntary technical assistance to landowners solicited through workshops, PSA's, word-of-mouth and other outreach through office visits, site visits and evaluations, and BMP recommendations. An RCD Technical advisor would visit landowner parcels to assess and prioritize needed improvements with property owners and be key to implementing on-the-ground projects. The technical assistance will be provided in addition to selection and recruitment of demonstration implementation sites.
Deliverables: Completed Site Visit Evaluation Forms and records of contact

Task 12: Demonstration/Pilot Projects:

12.1 Plan Preparation and Design
12.2 Permitting (if required)
12.3 Construction Contracting
12.4 Project Construction
12.5 Performance Evaluation
12.6 Reporting

Description: TCRCD will develop an application packet based on previous templates to solicit proposals from property owners who wish to implement BMP's on their property and are willing to serve as demonstration sites to illustrate project "how-to" and benefits to the public. The application package will state benefits to and responsibilities of Implementation Site owners. It will also highlight previous projects as examples and set application deadlines, promote the availability of Implementation Site funding opportunities and distribute applications. This will mainly occur at technical trainings, association meetings, via program websites, and through direct e-mailing or postal mail. We will assist landowners in completing the applications, which can include facilitating a site tour by TCRCD, NRCS or other TAC member agency.

- TCRCD will select a short list of up to ten potential sites from the applicant pool to be toured and ranked by members of the TAC using the developed criteria. Coordinate staff, SAC and TAC members to review short list applications in detail, conduct additional site tours and select a minimum of 5 sites to implement projects. Additional sites may be selected if available funding allows.

- BMP's and water quality improvements will vary based on the specific site issues being addressed & will be designed by the Technical Advisors, the Advisory Committee and consultants as necessary. The scale of improvements anticipated do not typically require additional permitting other than an occasional grading or building permit from the local jurisdiction.
  Develop specific designs/project plans for the specific BMP's recommended for funding match to implement at each site and receive cost estimates for projects from landowners. Facilitate review of site plans, designs and/or project plans by the appropriate TAC members and/or project staff prior to implementation. Obtain Landowner Agreements to accomplish projects. Agreement template will be updated from existing Livestock and Land Program materials and requires the landowner to maintain all implementation projects into the future, as well as allow access to the property for future program participants to learn about the site improvements. All contracts will include reference to the expected service life of BMP's per NRCS. All contracts will include a required program cost share match amount appropriate to the project. Implement and construct BMP improvements in accordance with approved designs/project plans. Construction of improvements such as manure composting cribs, vegetative filter strips and drainage facilities will be completed following NRCS or similar standard practices.
- Oversee implementation of BMP's by landowners at all Implementation Sites. Conduct pre, during and post photo documentation in accordance with SWRCB guidelines. Organize and conduct an Implementation Site tour open to the public to showcase all of the completed projects, highlight water quality BMP's and successes.

Deliverables: Site Ranking List, Project Plans and BMP standards, Photographs of pre- and post-BMP Installation. Water Quality monitoring data, if any will be provided on CEDEN forms.

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Description: None Required
Deliverables: None.

Budget Category (f): Construction Administration

Task 13: Construction Administration:
Description: During implementation of BMP's, TCRCD staff and/or qualified consultants will provide construction management and administration, including daily on-site observation; and documentation of these activities.
Deliverables: BMP Inspection Reports.

Budget Category (g): Other Costs or Activities

Task 14: Ongoing Oversight by TCRCD Board Members:
Description: TCRCD Board of Directors will provide direct oversight of both the TCRCD's small acreage project and the overall Regional Grant Administration. Anticipated involvement is approximately 8 man-hours per month. This is an In-Kind Service Match.
Deliverables: None

Task 15: Completed TCRCD Stream Team Volunteer Water Quality Testing:
Description: The TCRCD has an established volunteer citizen water quality monitoring program; the Stream Team. This program currently monitors twenty six sites in Tuolumne County in the Stanislaus and Tuolumne river watersheds. The sites are monitored monthly for temperature, pH, electrical conductivity, dissolved oxygen, total coliform, and *E.coli*. Data from these tests have helped identify priority locations for implementation of BMP's on smaller rural parcels. This task is an "In-Kind Service Match" and includes previous volunteer activities from November 2008 through December 2012. Completed.
Deliverables: None

Task 16: Ongoing TCRCD Stream Team Volunteer Water Quality Testing and Database Development:
16.1 – Volunteer Water Quality Testing

16.2 – Database development
Description: The Stream Team program and its volunteers will be utilized in the Small Parcel Storm Water Pollution and Land Stewardship Program to test pre and post water quality levels near the BMP implementation project sites. The data that is collected both pre and post project will be compiled and reported by TCRCD throughout the length of the program. TCRCD will also develop a regional water quality data base in Microsoft Access that will contain the data from previous data collection activities. Stream Team volunteer time is an "In-Kind Service Match" and includes volunteer activities from October 2013 through December 2017.
Deliverables: Regional Surface Water Quality Data. Data submittal per CEDEN data templates.

Task 17: Work Plan Preparation:
Description: This task includes the time and effort spent by the TCRCD District Manager and Board of Directors Chairperson to develop the workplan, budget and schedule for this project including both the RCD project and coordination with the other partners for regional grant administration tasks. This is an In-Kind Service Match and no funding is requested.
Deliverables: None.

Budget Category (h) Construction/Implementation Contingency

Task 18: Contingency:
Description: This task includes a standard 5% contingency on the BMP construction activities (Task 12.4)
Deliverables: None

4. Other Required Information

Procedures
The TCRCD will act as overall grant administrator and manager for the other seven project proponents. As such we will have a strong leadership role in coordinating administrative functions with the other Agencies. The TCRCD will prepare a standard MOU for signature by the other grant participants that will be finalized once grant funding is secured (a draft is already in preparation).

In addition, the TCRCD's project ties in directly with other partner agencies such as Tuolumne Utilities District's Phoenix Lake Restoration, ATCAA's Water Conservation, and even more closely with the Tuolumne River Trust's watershed outreach. It is likely that outreach programs and workshops will be combined to meet common goals.

Standards
When installing small parcel enhancements, the TCRCD will typically utilize standard BMP's as defined by USDA Natural Resources Conservation Service's Field Office Technical Guides: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/fotg/; Examples of which can be found in Appendix 3-B (Att3_IG2_TuolStan_WorkPlan_3of5). Standard Storm Water Pollution Prevention guidelines such as Caltrans Storm Water Quality Handbooks, or other proven standard BMP's utilized in similar projects throughout the state such as: Equestrian-Related Water Quality Best Management Practices used by several San Diego area RCD's and "Slow it. Spread it. Sink it! A Homeowner and Landowner's Guide to Beneficial Stormwater Management" by Southern Sonoma County RCD .

Monitoring and Project Performance
A Load Reduction Modeling tool was designed specifically for the Ecology Action Livestock and Land program by Fall Creek Engineering and vetted and approved by their TAC. It uses site specific information to compute annual loads for amount of manure produced, as well as the primary constituents of concern, nutrients, pathogens, and sediments. The annual loading of contaminates is calculated first using existing and proposed site conditions to quantify the sediment, pathogen, and nutrient generation at the site. Then, management practices are taken into consideration, applying removal efficiency to predict the effectiveness of best management practices at the respective site. This tool can assist in the future development of the program, facilitate the understanding of the impact an equestrian facility has to a watershed and evaluate the effectiveness of implementing specific best management practices to improve water quality on that site. This tool will be utilized by TCRCD to prioritize which projects to fund and can be found in Appendix 3-B (Att3_IG2_TuolStan_WorkPlan_3of5).

Development of Monitoring Plan and Quality Assurance Project Plan
The TCRCD will prepare a Monitoring Plan based on Attachment 6, the Project Performance Measures table.

Status of Acquisition of Land or ROWs
Not Applicable.

Building Materials, Project Design Status, and Bid Solicitation Efforts
The development of this program has utilized the expertise and experience of other similar programs and experts throughout California and the United States as described above, the primary ones of which

are Sustainable Agriculture Research and Education (SARE) and University of Nevada Cooperative Extension's "Living on the Land" program and Ecology Action and Ecology Action/Monterey County RCD's "Livestock and Land" program.

Permits
Based on the scope of work, it is unlikely that any permits from State of California or federal agencies will be required. Other RCD's and agencies implementing these programs have not had the need to acquire permits for BMP installation for small acreages unless there is direct alteration of streambeds or wetlands. Based on the scope, it is unlikely that the TCRCD would choose to implement BMP's that required this level of permitting. If necessary, grading and building permits will be obtained from the local County authorities for any improvements deemed to require them per the local codes. Permitting will be the responsibility of the landowner. Building and Grading Permits will be site and project specific and cannot be estimated at this time. For purposes of this proposal the TCRCD has estimated eight hours of effort.

Status of Preparation and Completion of Environmental Requirements
This project was found to be Exempt from the California Environmental Quality Act by the TCRCD acting as Lead Agency. A Notice of Exemption was filed with the Tuolumne County Clerk and mailed to the State Clearinghouse on November 21, 2011. (Clearinghouse Number: 2011118198 - Small Acreage Landowner Confined Livestock Storm Water Runoff Enhancement Program)

Submittals to Granting Agency
Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Design Plans and Specifications
Not Applicable. No specific Design plans are available at this time, because specific property owners with site-specific problems have yet to be identified. Each site will require a custom design solution. See BMP Standards and Specifications described above under "Standards" for examples of design plans.

Other
This project meets the eligibility criteria of the State IRWM Program. (Source: California Water Code Section 10537) by increasing water supplies for any beneficial use through the use of stormwater management, improves water quality, including drinking water treatment and distribution, groundwater and aquifer remediation, matching water quality to water use, wastewater treatment, water pollution prevention, and management of urban and agricultural runoff., and improves resource stewardship, including agricultural lands stewardship, ecosystem restoration, flood plain management, recharge area protection, urban land use management, groundwater management, water-dependent recreation, fishery restoration, including fish passage improvement, and watershed management.

Amador Tuolumne Community Action Agency Home-Level Water Conservation for the DAC (T-S IRWM Project No. 17)

Amador Tuolumne Community Action Agency
Contact:
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Program Preferences

☑ Include Regional Projects/Programs
☐ Integrate water management within hydrologic region
☐ Effectively resolve significant water related conflicts within or between regions
☑ Contribute to attainment or one or more objectives to CALFED
☑ Address critical water supply/quality needs of DAC
☐ Effectively integrate water management with land use planning
☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

☑ Drought preparedness
☑ Use and reuse water more efficiently
☐ Climate change response actions
☐ Expand environmental stewardship
☐ Practice integrated flood management
☐ Protect surface water and groundwater quality
☐ Improve tribal water & natural resources
☑ Ensure equitable distribution of benefits

CALFED Primary Objectives

☐ Ecosystem quality
☑ Water supply
☐ Water quality
☐ Levee system integrity

1. Executive Summary

a. Project Description

The Amador Tuolumne Community Action Agency (ATCAA) proposes a project that directly addresses the DAC on a case-by-case basis. Our goal is to stabilize or lower water rates by conducting water conservation measures in homes to reduce consumption, in conjunction with our current home weatherization efforts. The existing ATCAA Low Income Home Energy Assistance Program is completely financed by grants from Departments of Energy (DOE) & Health and Human Services (HHS), and specifically addresses energy conservation in homes in an effort to help low income households to become self sufficient. This proposed Home-Level Water Conservation Program would be an extension of that existing program, and would extend the energy conservation efforts to include water conservation in the same homes. ATCAA will perform outreach and accept applications from residents who live within the Tuolumne River and Stanislaus River watersheds in Tuolumne and Calaveras Counties. ATCAA has a state approved process for prioritizing work based on total household income and if members of the household are frail elderly, medically needy, experiencing severe financial hardship or when the household includes children under the age of 5. ATCAA would apply this same process and thereby help those members of the DAC who have the most need. ATCAA would 1) leverage our existing grants and infrastructure in order to conduct water conservation measures in as many homes as possible, 2) maximize and quantify the amount of water and ratepayer dollars saved and 3) provide the DAC with assistance that is unavailable elsewhere.

b. Project Benefits

The ATCAA "Home-Level Water Conservation for the DAC" will benefit water supply. This project improves water supply by reducing demand. Water conservation is a necessary component of any strategy that addresses water supply. Additionally, ATCAA proposes to install conservation measures in the homes of the neediest members of the DAC. This strategy 1) applies water conservation measures to the homes of the people who can least afford to do so themselves, and 2) guarantees equitable distribution of the grant funds.

Water Supply

The ATCAA "Home-Level Water Conservation for the DAC" improves water supply by reducing demand. Water conservation is a necessary component of any strategy that addresses water supply. As part of the ATCAA Home-Level Water Conservation Program Energy Star appliances and low flow fixtures will be installed in DAC households. This proposed Home-Level Water Conservation Program would be an extension of an existing program, and would extend energy conservation efforts to include water conservation in the same homes. Over the anticipated useful life of the measures to be installed (on average 12 years) the project would save approximately 182 acre feet of water.

<u>Secondary benefits of water conservation include;</u>
Social Benefits:
For the lowest income households within this region purchasing an adequate supply of water to meet their daily needs can be a financial hardship. ATCAA has found that members of the DAC, because of their lower incomes, are less likely to spend money on water conservation measures, even if it could result in a future savings. This is compounded in times of drought when these communities are disproportionately burdened by enforced conservation measures. The benefit of implementing this project will be that households which otherwise could not afford to make these upgrades will now have access to their benefits.

Power Cost Savings Benefit:
As part of the proposed project, appliances and low flow fixtures will be installed. This will improve the energy efficiency of the home-level infrastructure by reducing the amount of water that needs to be heated, and saving the corresponding energy.

c. Cost and Schedule

Grant funding requested under Proposition 84 for implementation of the "Home-Level Water Conservation for the DAC" project is $200,000. ATCAA will be requesting a funding match waiver because 100% of the beneficiaries of this project will be members of the DAC. Additionally, our current program is funded through state grants and as such cannot be utilized as matching funds.

The ATCAA Energy and Conservation department has existing resources used for our weatherization program. These include a highly-trained workforce, shops, vehicles and tools. This project simply expands the scope of our work to include assessment of home water systems, the installation of water conservation measures and distribution of educational materials promoting water conservation.

All jobs described in this proposal will be combined with ATCAA's Low Income Home Energy Assistance Program grant from HHS and also ATCAA's Weatherization Assistance Program grant from the DOE. These two grants are

used to improve the energy efficiency of homes in Tuolumne, Calaveras and Amador Counties in a similar effort to help low-income residents to save on energy costs by reducing use and waste. No homes are anticipated to receive water conservation measures without weatherization measures and therefore, ATCAA will not incur any travel costs in addition to our current weatherization activities.

2. Proposed Work

Project Description:
The Amador Tuolumne Community Action Agency (ATCAA) proposes a project that directly addresses the DAC on a case-by-case basis. Our goal is to stabilize or lower water rates by conducting water conservation measures in homes to reduce consumption, in conjunction with our current home weatherization efforts. The existing ATCAA Low Income Home Energy Assistance Program is completely financed by grants from Departments of Energy (DOE) & Health and Human Services (HHS), and specifically addresses energy conservation in homes in an effort to help low income households to become self sufficient. This proposed Home-Level Water Conservation Program would be an extension of that existing program, and would extend the energy conservation efforts to include water conservation in the same homes. ATCAA will perform outreach and accept applications from residents who live within the Tuolumne River and Stanislaus River watersheds in Tuolumne and Calaveras Counties. ATCAA has a state approved process for prioritizing work based on total household income and if members of the household are frail elderly, medically needy, experiencing severe financial hardship or when the household includes children under the age of 5. ATCAA would apply this same process and thereby help those members of the DAC who have the most need. ATCAA would 1) leverage our existing grants and infrastructure in order to conduct water conservation measures in as many homes as possible, 2) maximize and quantify the amount of water and ratepayer dollars saved and 3) provide the DAC with assistance that is unavailable elsewhere.

Once ATCAA has performed outreach, accepted applications for assistance and prioritized the applications, ATCAA would employ a 4-step process:

1. Perform an assessment of each home's water usage and waste.
    a. Perform leak tests on homes to detect and repair water leaks. Leak tests consist of water meter monitoring over a 30-minute period as well as visual and audible detection of water movement/leakage.
    b. Assess the outdoor water usage for efficiency and waste.
    c. Determine an appropriate set of measures that should be installed and repairs that should be made. Develop a work order for the work crew. Note: ATCAA assesses homes for proper measures; requests for specific measures are not accepted.
2. Install home-level water conservation measures. Only the 6 most cost-effective measures will be installed under this project.
    a. Repair leaks.
    b. Install low-flow showerheads.
    c. Install low-flow faucet aerators.
    d. Install low-flow toilets.
    e. Replace clothes washers if manufactured before 1994 or if they are non-Energy Star washers.
    f. Replace dishwashers if manufactured before 1994 or if they are non-Energy Star dishwashers.
3. Install outside water conservation measures.
    a. Winterize outdoor spigots and any external water pipes to prevent leaking/bursting.
    b. Perform catch-can tests and adjust sprinklers for efficient landscape watering.
    c. Adjust sprinkler timers for proper duration/time of day/day of year.
    d. Spread water-retaining mulch or compost around outdoor plants.
    e. Install drip irrigation systems when appropriate.
    f. Check sprinkler system valves & heads for leaks.
    g. Perform lawn aeration when appropriate.
4. Quality assurance inspection/client education.

This inspection step follows our normal process of assessing, installing and inspecting that we employ with our energy conservation program. Our Inspector would check the work done against the work order, verify tests performed and their results, QA each measure, correct any measures possible, then pass the home or fail it if conditions are not right. In the event of a fail, the crew would return and correct the problem, followed by another visit from our inspector.

ATCAA will maintain separation between assessor/inspectors and work crews whenever there are three or more people available to perform all tasks, in an effort to avoid a conflict of interests. This separation ensures proper work and adherence to regulations and agreements. The same separation is required by our energy conservation contracts.

Goals and Objectives:
There are two primary goals for ATCAA's proposed project. The project increases water supply and water use efficiency by directly decreasing demand through the installation of water saving measures. The project also cost-effectively reduces the pressure on water agencies to develop new supplies.

Purpose and Need:
The water supply infrastructure in this region is aging and is proving insufficient in the wake of multi-year droughts. This region is largely served by an open ditch network originally constructed during the gold rush. If the flumes involved fail, if human interaction pollutes the ditch water, if snow or vegetation overwhelms the ditches, or if the ditch simply fails, water distribution is interrupted without warning. These are all events that have happened in the past. Additionally, California has recently suffered several years of drought conditions and critical water supply sources have become less dependable. In multi-year droughts surface water levels in reservoirs have dropped precipitously and threatened the continuity of water supply. Modifying the water supply system to increase efficiency is a critical measure for ensuring that the minimum required quantity of water is delivered to users. In-home water conservation is an important component of efficiency gains, but is often neglected especially in the homes of members of the DAC who lack the financial resources to make the necessary improvements. Water is also becoming more expensive. For the lowest income household in this region, purchasing an adequate supply of water for daily needs can be a financial hardship.

This purpose of this project is to address this critical water supply need by improving in-home water use efficiency in low-income households. This will reduce demands on an aging and overtaxed water supply system, stabilize or reduce the money a given household must spend on water, and reduce pressure on water districts to develop new water supplies.

This project is consistent with the following T-S IRWM Objectives:

Objective A. Improve water supply infrastructure within DAC and urban areas that have declining water quantity/quality or other water system reliability issues (e.g. fire flow, contamination, etc.).
ATCAA's Home-Level Water Conservation for the DAC project directly addresses improvements to the water supply through reduction of demand. ATCAA will conduct outreach and accept applications from the neediest members of the DAC, then assess their water usage and install cost-effective water conservation measures.

Objective J. Improve energy efficiency of water and wastewater system infrastructure.
As part of the ATCAA Home-Level Water Conservation Program Energy Star appliances and low flow fixtures will be installed. This will improve the energy efficiency of the home-level infrastructure by reducing the amount of water that needs to be heated.

Objective K. Improve efficiency and reliability of man-made water conveyance systems.
Any effort to achieve this goal must include a conservation element. Efficiency and reliability are both functions of the amount of surface water that must be conveyed and this project proposes to install measures to reduce that burden for residents that can least afford to do so.

Objective L. Increase current and future water use efficiency (WUE) by both municipal (residential and commercial) and agricultural end users.
ATCAA's Home-Level Water Conservation for the DAC plan directly addresses water use efficiency by residential users. ATCAA has developed a set of diagnostic tests and conservation measures that increase water use efficiency by reducing or eliminating waste. In addition, this project is targeted to the neediest level of the DAC, consisting of people who are the least able to afford the installation of these measures themselves.

Objective M. Develop sufficient reliable and affordable water supplies to meet regional demands of existing and projected water supply needs under a multi-year drought now and into the future.
This project meets this objective by addressing the affordability issue. Affordability for the lowest level of the DAC is best accomplished by identifying those households and analyzing their water use, then reducing any waste that is contributing to their inability to afford water. This project also addresses the DAC's water supply needs during a multi-year drought. During times of drought, the importance of home-level conservation is amplified. If a member of the DAC is able to reduce their usage, the negative impacts of any drought are significantly reduced.

Integrated Elements of Projects:
Synergies exist with the Tuolumne River Trust who will distribute ATCAA materials at their various outreach events and other functions. In addition, ATCAA will provide outreach materials to all of the members of the IRWM group, particularly the water districts, in an effort to reach the members of the DAC and to offer this valuable service.

ATCAA's project is designed to "stand alone", however it can also be viewed as a component of all other projects in this proposal since all projects will benefit by water conservation.

Completed Work:
ATCAA can begin this project without delay. There is no necessary compliance or licensing other than to fulfill the requirements of this grant. ATCAA has resources in the form of personnel, vehicles, shops and tools. We would only need to purchase the necessary parts, e.g., shower heads, aerators, etc. We already operate an energy efficiency program for the DAC, weatherizing homes in all of Tuolumne, Calaveras and Amador Counties, using grants from DOE and HHS, which we would leverage for this project to pay for travel to and from homes. This water conservation work would be combined with our weatherization work in every instance. No water conservation-only jobs will be attempted due to the restriction against travel costs in this grant.

ATCAA's completed work includes systems and processes developed over our 31-year history. ATCAA has a well-trained outreach and intake staff that use a long-standing prioritization system developed by the California Department of Community Services and Development (CSD). Our weatherization program is closely monitored and our fiscal department is very experienced. Our existing programs are DAC targeted, make up the bulk of the social safety net within the region, and have earned broad support from CSD. Our agency has the wherewithal to operate a water conservation program for the DAC as well as to properly report on our work in an orderly, time-efficient manner.

Existing Data and Studies:
For the purpose of establishing the most cost-effective conservation measures for this grant, water savings statistics were used from the "Save Our Water" publication, sponsored by the Association of California Water Agencies and the California Department of Water Resources, found on the DWR website.

Project Map:
ATCAA will perform work on eligible, prioritized households within the T-S region. This prioritization system was developed by CSD and is also used for our energy conservation program. Maximum eligible total household income is 60% of median state income, and so only the neediest of the DAC qualify. The regular ATCAA service region entirely encompasses the T-S region. A map of home locations cannot be made at this time. Instead we will use our outreach – intake – prioritization system to specifically identify DAC households within the T-S IRWM region. ATCAA can provide maps that detail the homes worked during each quarterly reporting cycle.

Figure 3-9 shows the entire T-S IRWM region and existing overlying DAC census tracts and places.

Project Timing and Phasing:
This project would begin once funded. There is no ramp-up or design phase. All of the necessary components are in place. Phasing is simply a function of workload. ATCAA will spread this work out over a four-year period and the pace of work will be commensurate with our weatherization work. This project can operate on a standalone basis, i.e., can be fully functional without implementation of the other projects in this proposal.

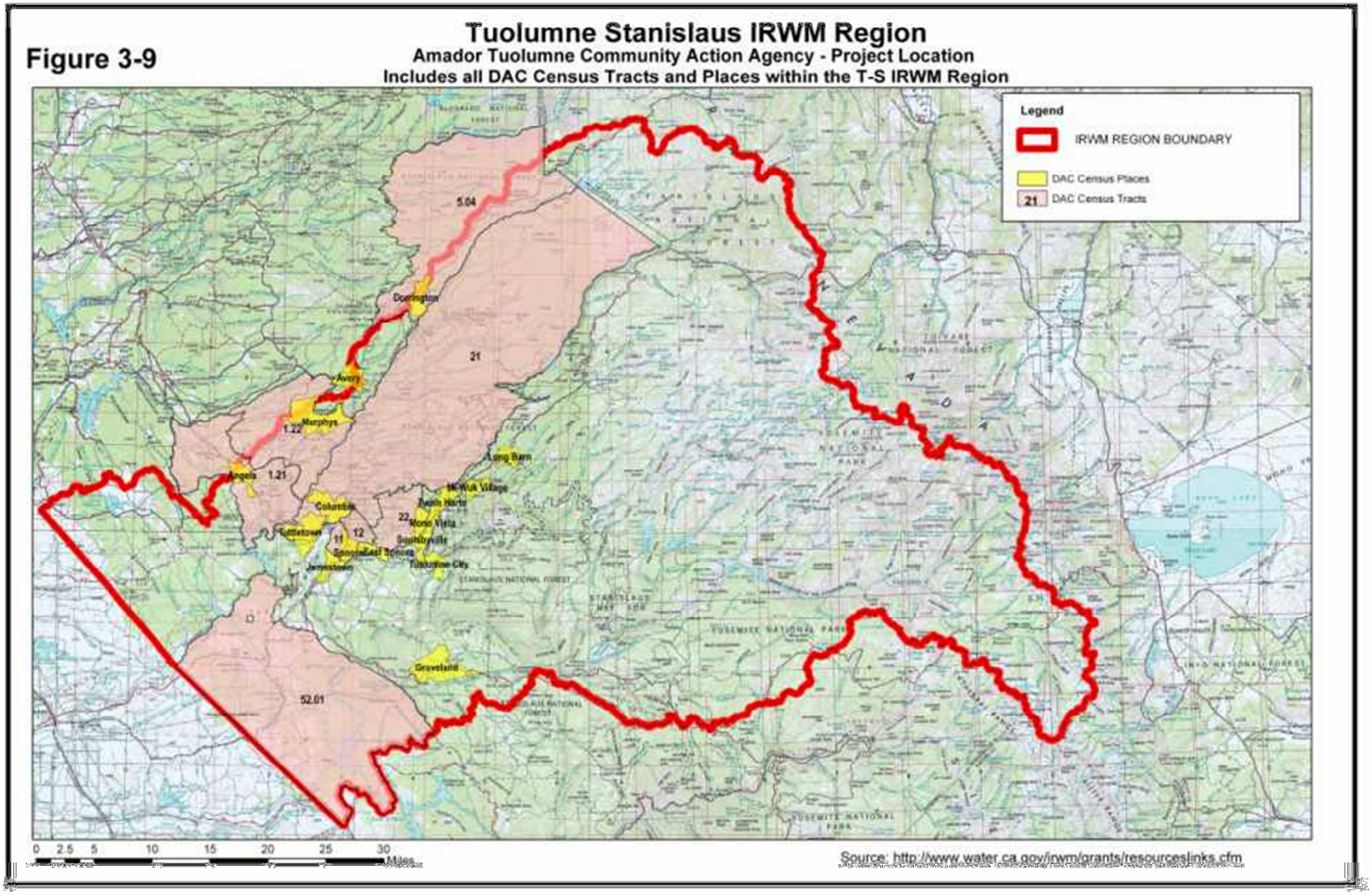


Figure 3-9
Tuolumne Stanislaus IRWM Region
Amador Tuolumne Community Action Agency - Project Location
Includes all DAC Census Tracts and Places within the T-S IRWM Region
Legend
IRWM REGION BOUNDARY
DAC Census Places
21 DAC Census Tracts
5.04
21
52.01
1.22
1.21
22
11
12
Dorrington
Avery
Murphys
Angels
Long Barn
McWilk Village
Columbia
Sonora
East Sonora
Jamestown
Tuolumne City
Groveland
0 2.5 5 10 15 20 25 30
Miles
Source: http://www.water.ca.gov/irwm/grants/resourceslinks.cfm

3. Work Plan Table

Tasks necessary to implement the Home-Level Water Conservation for the DAC project.

Table 1: Work Plan for the Home-Level Water Conservation for the DAC project

Budget Category (a): Direct Project Administration
Task 1: Administration Description: Manage all in-field and office work, monitor and manage all expenditures and maintain contact with the people being served to ensure proper customer service and quality of work. Manage all purchasing of parts and supplies using ATCAA's state-approved procurement procedures. Schedule all work and monitor each job in progress. Manage this project so that maximum efficiency is achieved and the maximum possible amount of water is conserved in each home. Perform quality assurance post inspections to review all measures and their proper installation. ATCAA has procedures in place for assessment and evaluation, which are conducted by the Energy department director, who will manage the project and keep all work on time and properly performed. Deliverables: Produce an inspection report for each home that verifies proper installation of measures. Prepare and submit invoices and supporting documents.
Task 2: Labor Compliance Program Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). Use ATCAA's federally-approved labor compliance plan and approved labor rate for all work. Deliverables: Documentation furnished to DWR as requested.
Task 3: Reporting Description: A report on the homes worked, measures installed and inspections conducted will be produced quarterly and submitted with our invoices. This report also includes full household demographics, total household income, special circumstances, priority level and proof of citizenship of each household. A report of the results of our monitoring and auditing that involves this project will be submitted annually to DWR. Last, performance reports will be submitted to the Grant Administrator (the TCRCD) quarterly along with all invoices and supporting documentation. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Budget Category (b): Land Purchase/Easement
Not Applicable.
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 4: Assessment and Evaluation Description: ATCAA will develop procedures and a monitoring plan consistent with Attachment 6 and implement these along with our procedures already in place for assessment and evaluation, which are conducted by the Energy Department Director. Deliverables: Monitoring plan and assessment criteria.
Budget Category (d): Construction/Implementation
Task 5: Project Construction: Description: ATCAA will perform a water usage assessment of each eligible home and develop a list of water conservation measures that can be cost-effectively installed. ATCAA's work crews will then install these measures. Once installed, a minimum of 20% of homes will undergo a formal post-inspection to verify that all work has been completed properly, that all necessary measures have been identified and installed, that measures called for during the assessment but were not installed are documented and explained, and that all diagnostic tests, measure installations and inspections are properly documented.

Deliverables: ATCAA will document this entire process, reporting all work completed and all allowable costs involved, as well as all test results, photographs and usage statistics to the TCRCD on a quarterly basis. Perform water usage and waste assessments at 240 homes. Install cost-effective conservation measures in 192 homes. Perform QA Post Inspection on a minimum of 38 of those homes.
Budget Category (e): Environmental Compliance/Mitigation/Enhancement
Not Applicable.
Budget Category (f): Construction Administration
Task 6: Construction Administration Description: Construction Administration is accomplished with in-field supervisors that will work with each work crew. These supervisors are highly trained and know the installation standards. Deliverables: Supervise the crews closely; check that all installations are per the installation standards and report problems to the program director.
Budget Category (g): Other Costs or Activities
Not Applicable.
Budget Category (h): Construction/Implementation Contingency
Task 7: Contingency: A contingency of 25% is built into this project because the nature of the work does not allow us to calculate the frequency that certain measures will be installed until we have assessed each home. No money has been budgeted for what could be one of our largest expenditures, which is the repair of leaks, a cost that cannot be estimated beforehand.

4. Other Required Information

Procedures
ATCAA will coordinate with its partner agencies over the phone or during regularly scheduled meetings. No direct involvement or cooperation by the other agencies is necessary because ATCAA has procedures in place to process applicants and determine their eligibility. One important procedural point is that we will treat all applicants equally when they apply. ATCAA will encourage other agencies to send applicants to our offices, but we will not approach and solicit applications from people recommended by any agency. This "hands-off" and equal treatment is an important component of our outreach and intake procedures.

As a signatory to the larger group's memorandum of understanding, ATCAA will attend all meetings, provide relevant input and report on our activities to all agencies in the group.

Standards
ATCAA's Energy Department uses the CA Dept. of Community Services "Weatherization Installation Standards" to guide our assessor/inspectors and work crews in all situations. These are standards for a wide variety of home types and installation situations and they are extremely detailed. ATCAA would also follow local building code.

ATCAA also adheres to the health and safety standards of OSHA and CAL-OSHA. Our crews have abundant training and certifications for standards involving health and safety, lead-safe renovation, historical preservation, assessing, inspecting, asbestos remediation, combustion appliance safety, home renovation and environmental hazards.

Development of Monitoring Plan and Quality Assurance Project Plan
ATCAA currently weatherizes 10 – 20 homes per month, using grant funds from DOE's Weatherization Assistance Program and also HHS's Low Income Home Energy Assistance Program. We are proposing to perform water conservation assessment and measure installation on some of these same 10 – 20 homes per month. The number of completed homes is somewhat dependent upon the scope of work described for each home during the initial assessment. For those homes that had a toilet or an appliance replaced, we would also conduct a post inspection to determine that everything was properly installed. We are required to post-inspect at least 20% of homes that we weatherize under our other grants, and all post-inspections would include any water conservation measures installed.

ATCAA's weatherization program undergoes a thorough, annual monitoring conducted by the CA Dept. of Community Assistance and Development. We propose to self-monitor this project during the same month that our broader CSD monitoring occurs. ATCAA as an agency is audited annually and this work would be included in that audit. A report on the homes worked, measures installed and inspections conducted will be produced quarterly and submitted with our invoices. A report of the results of our monitoring and auditing that involves this project will be submitted annually to DWR. Last, performance reports will be submitted to the TCRCD quarterly along with all invoices and supporting documentation.

Status of Acquisition of Land or ROWs
Not Applicable. This project does not require the acquisition of land or rights-of-way. All work is to be conducted on the property of eligible applicants.

Building Materials, Project Design Status, and Bid Solicitation Efforts

ATCAA's Home-Level Water Conservation project has two cost centers: Labor and materials. The costs of all materials are discussed and/or fully delineated in the budget. The materials to be used and the labor hours to be dedicated to each job are the decision of our assessors. Our project calls for the following materials:

Low-flow showerheads
Low-flow toilets
Low-flow faucet aerators
Energy Star washing machines
Energy Star dishwashers
Low-consumption plants
Garden mulch
Sprinkler system parts
Water pipe insulation

Permits
Not Applicable. No work is anticipated to require a building permit or any other type of permit. All work for this project is accomplished at the home location of eligible applicants and no major structural changes or rehabilitation work will be conducted, obviating the need for permits.

Status of Preparation and Completion of Environmental Requirements
Not Applicable. ATCAA currently has crews who are actively installing energy conservation measures in eligible homes throughout the Tuolumne-Stanislaus region. We do not do any work that involves the requirement to comply with CEQA, NEPA, and other environmental laws.

Submittals to Granting Agency
ACAA will submit detailed status reports on a quarterly basis. These status reports will include the number of homes worked, their physical addresses, household demographics, the water conservation measures installed and the results of any post-inspection, with quantified detail on the amount of water and money saved. A final, aggregated report will also be prepared once the project is completed.

Tuolumne Utilities District Phoenix Lake Preservation and Restoration-Phase 2 (T-S IRWM Project No. 18)

Tuolumne Utilities District
Contact:
Ted Allen
(209)532-5536
tallen@tuolumneutilities.com

Program Preferences

☑ Include Regional Projects/Programs
☐ Integrate water management within hydrologic region
☐ Effectively resolve significant water related conflicts within or between regions
☑ Contribute to attainment or one or more objectives to CALFED
☑ Address critical water supply/quality needs of DAC
☑ Effectively integrate water management with land use planning
☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

☐ Drought preparedness
☐ Use and reuse water more efficiently
☑ Climate change response actions
☑ Expand environmental stewardship
☐ Practice integrated flood management
☑ Protect surface water and groundwater quality
☐ Improve tribal water & natural resources
☑ Ensure equitable distribution of benefits

CALFED Primary Objectives

☑ Ecosystem quality
☑ Water supply
☑ Water quality
☐ Levee system integrity

1. Executive Summary

a. Project Description

Phoenix Lake is an 88-acre water storage reservoir located approximately 3 miles east of the City of Sonora in Tuolumne County, California. Phoenix Lake water rights and facilities, as well as portions of the lake, are owned by the Tuolumne Utilities District (TUD). The TUD uses the lake as a primary drinking water source for the communities of Sonora, Jamestown, Scenic View and Mono Village.

The Phoenix Lake Preservation and Restoration-Phase 2 project is designed to improve the water quality and restore storage capacity in Phoenix Lake and the Phoenix Lake watershed (see Figure 3-10). A very comprehensive and diverse plan has been developed for the restoration and preservation of Phoenix Lake and the surrounding watershed. This project will finalize the 30% design completed in the Plan, complete all necessary environmental reviews and obtain the required permits to implement the Plan.

The goal of this project is to continue the previous work completed in Phase 1 of the Phoenix Lake Preservation and Restoration project. The Plan, or Phase 1, has developed a roadmap for the TUD to restore and preserve the lake and improve the water quality in the surrounding watershed. Phase 2 of the PLPRP will do the following:

- Develop complete engineering plans for the lake improvements including; dredging plans, sediment forebay design, and wetland enhancement design.
- Complete the necessary environmental review (CEQA and NEPA).
- Obtain the required regulatory permits and compliance for Phase 3, lake improvement implementation.
- Purchase the required land for the sediment forebay.

b. Project Benefits

Water Supply and Distribution	*Benefits include avoided water supply purchase costs, including those for environmental purposes, avoided costs of water supply projects, avoided water shortage costs, avoided operations and maintenance costs, or water revenue from water sales to another purveyor or third party. Only one of these can be claimed for each unit of water supply benefit.*
Water Quality	*Benefits may include: reduced costs of protecting, restoring, or enhancing beneficial uses, avoided water quality project costs; avoided water treatment costs; avoided wastewater treatment costs; and water supply benefits caused by water quality improvements (if not already captured as a water supply benefit), and willingness to pay for water quality improvements for drinking water, impaired water bodies and sensitive habitats.*
Ecosystem Improvement	*Ecosystem improvement includes habitat restoration, protection, or preservation, and enhancement of native fish and wildlife enhancement. Benefits measures for ecosystem improvement could include avoided costs, alternative cost of the same habitat improvement, and willingness to pay for recreation, aesthetics, or special-status species.*
Recreation and Public Access	*Recreation and public access benefits should be documented on a with-and-without-project basis. With- and without-project conditions could include the types and quality of recreational activities, amount of use such as visitor days in each activity, and value per unit of use such as unit day values.*
Power Cost Savings and Power Production	*Power cost savings and power production benefits should be based on market value of power. Document the quantity and the unit value of the power saved or produced. Include information on when the savings or production would occur (time of year, time of day), change in capacity, or other factors that influence the cost savings or production benefit. Do not double-count with water supply benefits; water supply cost savings are often energy savings.*
Other	*In general, cost savings or willingness to pay for goods and services.*

c. Cost and Schedule

Grant funding requested under Proposition 84 for implementation of the Phoenix Lake Preservation and Restoration-Phase 2 is $1,700,000.

Phoenix Lake is an 88-acre water storage reservoir located approximately 3 miles east of the City of Sonora in Tuolumne County, California. Phoenix Lake water rights and facilities, as well as portions of the lake, are owned by the Tuolumne Utilities District (TUD). The TUD uses the lake as a primary drinking water source for the communities of Sonora, Jamestown, Scenic View and Mono Village.

Since 83% of the service area is in a Census Tract DAC the match provided will be 17% of the standard 25% match required. This equates to a match amount of $72,250. The funding source for the match will be in-kind services from TUD labor. The burdened rate of an Associate Engineer performing project management and design tasks is currently $77/hour. Approximately 938 hours of in-kind services will be used for the required funding match.

In July of 2012 the Phoenix Lake Preservation and Restoration Plan (Phase 1) was completed. The Plan provides TUD with a roadmap for restoring and preserving the functions and values of Phoenix Lake. Critical functions and values of the lake include water supply, water quality, wildlife habitat, recreation, and aesthetics.

Included in the completion of the Plan are 30% conceptual improvement plans. These plans address sediment removal (dredging), lake restoration, sediment forebay, and wetland habitat improvements.

The cost estimate for this project includes the following tasks:

- Project/Grant Administration
- Land Purchase
- Design/Environmental Documentation/Permitting

2. Proposed Work

Project Description:

This work plan describes the Phoenix Lake Preservation and Restoration-Phase 2 project, designed to improve the water quality and restore storage capacity in Phoenix Lake and the Phoenix Lake watershed (see Figure 3-10). A very comprehensive and diverse plan has been developed for the restoration and preservation of Phoenix Lake and the surrounding watershed. This project will develop 100% plans and specifications, complete all necessary environmental reviews and obtain the required permits to implement the Plan. In addition, the required property for the sediment forebay will be purchased.

Phoenix Lake is an 88-acre water storage reservoir located approximately 3 miles east of the City of Sonora in Tuolumne County, California. Phoenix Lake water rights and facilities, as well as portions of the lake, are owned by the Tuolumne Utilities District (TUD). The TUD uses the lake as a primary drinking water source for the communities of Sonora, Jamestown, Scenic View and Mono Village. These communities are DAC Places/Tracts (see Figure 3-11). Improvements to the Phoenix Lake basin will have a direct benefit in improving the water quality in Phoenix Lake. Improved raw water quality equals lower treatment costs for domestic water treatment. Lower treatment costs can be passed on to customers in the DAC thusly lowering their water rates.

The lake also serves as a principle fill source for CAL FIRE helicopter operations, is a scenic and ecologically important aquatic habitat and wetland, and is used for non-motorized, non-contact recreation by adjacent homeowners and to a limited degree by the general public.

The contemporary Phoenix Lake reservoir was constructed in 1880. Since that time the storage capacity of the lake has decreased substantially due to sedimentation. A comparison of bathymetric surveys from 2002 and 2010 suggests that on average approximately 4,600 cubic yards (cy) of sediment enters the lake annually. This sediment delivery estimate is more than three times the rate reported in previous studies. While the allowable storage capacity of the lake is approximately 900 acre-feet (ac-ft), the current capacity is only 600 ac-ft. Reduced lake capacity affects the water quality at Phoenix Lake, which is marginal at times and is declining due to nutrient inputs, sedimentation and exotic invasive aquatic vegetation.

In 2010, the TUD received a grant from the Sierra Nevada Conservancy (SNC) to perform a comprehensive study of Phoenix Lake and its watershed, with emphasis on the environmental factors that influence water quality, storage capacity and wildlife habitat. The TUD hired consultant Horizon Water and Environment (Horizon) to assist with the study. This Phoenix Lake Preservation and Restoration Plan (PLPRP or Plan) is the culmination of a 2-year investigation that identified stressors on Phoenix Lake and developed strategies to restore and preserve the lake's functions and values.

The Plan provides TUD with a roadmap for restoring and preserving the functions and values of Phoenix Lake. Critical functions and values of the lake include water supply, water quality, wildlife habitat, recreation, and aesthetics. Additional objectives of the PLPRP include investigating opportunities for public access; outreach to local landowners and residents on Best Management Practices (BMPs) to protect the lake; and developing pre-fire management strategies.

The Lake Plan includes sediment removal activities, restoring and enhancing wetlands, creating beach and island habitats, and constructing a sediment forebay. The Lake Plan proposes to remove more than 400,000 cy of sediment from the lake. Wetland enhancements include floodplain and channel reconstruction to provide habitat diversity and manage sedimentation patterns. The proposed sediment forebay will trap coarse sediment entering the lake.

When implemented, the Lake Plan will restore storage capacity in the reservoir while preserving recreational, aesthetic and wetland values at the lake. Assuming an average annual deposition rate of 4,600 cy, removing more than 400,000 cy of sediment would extend the life of the reservoir by more than 85 years. Sediment management activities in wetland areas would further increase the life of the reservoir by trapping sediment in locations that can be regularly maintained with conventional equipment. The cost estimate for implementing the entire Lake Plan is approximately 11 million dollars.

Based on the water quality sampling conducted for the PLPRP, Phoenix Lake exhibits mesotrophic conditions (i.e., intermediate level of productivity) and is trending to a eutrophic state (highly productive). The rate of eutrophication has been accelerated by sedimentation, and to a lesser extent, by nutrient discharges, which are most likely from anthropogenic sources.

Lake water quality conditions will improve with dredging and sediment management. This will slow the rate of eutrophication and extend the life of the lake, but due to its size and depth it is not possible to change the lake to an oligotrophic state (i.e., low productivity with clear, cold water).

The Plan represents the completion of the first phase of the PLPRP. Phase 2 of the PLPRP will consist of engineering design and regulatory compliance. In Phase 2, the preliminary design will be refined based on technical opportunities and constraints, as well as input received from the public and resource agencies during the regulatory compliance process. Phase 3 of the PLPRP will be project implementation (i.e., construction), and Phase 4 will consist of monitoring and maintenance. Completing the project and achieving the objectives of the PLPRP will ensure that Phoenix Lake can serve as a water resource and amenity for Tuolumne County for generations to come.

This application is focused on securing funding to complete Phase 2, complete technical design and regulatory compliance. Preliminary design has been completed in the form of 30% plans. An initial regulatory compliance overview has identified the necessary permitting agencies and level of environmental review that will be required to complete Phase 2.

Goals and Objectives:
The goal of this project is to continue the previous work completed in Phase 1 of the Phoenix Lake Preservation and Restoration project. The Plan, or Phase 1, has developed a roadmap for the TUD to restore and preserve the lake and improve the water quality in the surrounding watershed. Phase 2 of the PLPRP will do the following:

- Develop complete engineering plans for the lake improvements including; dredging plans, sediment forebay design, and wetland enhancement design.
- Complete the necessary environmental review (CEQA and NEPA).
- Obtain the required regulatory permits and compliance for Phase 3, lake improvement implementation.

Purpose and Need:
Water Supply and Storage Capacity must be restored and preserved. The importance of high quality water supply cannot be understated. The Phoenix Lake Preservation and Restoration-Phase 2 project will allow Tuolumne Utilities District (TUD) to ensure high quality water supply, restore capacity to the lake and improve wetland habitats. This work is necessary to assure the continued reliability of the water quality and quantity of this valuable resource.
By establishing a final set of construction documents, completing all necessary environmental compliance, and obtaining all required regulatory compliance permits, TUD will be shovel ready for construction implementation.

Preserving a Community Resource. The original dam impounding Phoenix Lake was constructed by Sullivan's Creek and Tuolumne Water Company in 1854, but was destroyed by a storm event in 1862. The original reservoir may have been impounded by one or two dams. The dam which created the contemporary Phoenix Lake was completed in 1880 (California Division of Safety of Dams, 2012). Historically, Phoenix Lake was a recreational destination for the people of the region. The Phoenix Lake Resort, established around the around turn of the 19th century, offered a variety of recreational facilities for visitors including fishing, swimming, boating, picnicking, and camping.

When implemented, the Lake Plan will restore storage capacity in the reservoir while preserving recreational, aesthetic and wetland values at the lake. Assuming an average annual deposition rate of 4,600 cy, removing more than 400,000 cy of sediment would extend the life of the reservoir by more than 85 years.

Regional integration equals achieving common goals. Phoenix Lake Preservation and Restoration-Phase 2 integrates very well with other projects in the Tuolumne-Stanislaus IRWM. The Stanislaus National Forest Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project will provide water quality improvements in the upper watershed that is a source of supply to Phoenix Lake. Tuolumne County Resource Conservation District's Small Parcel Stormwater Pollution Prevention and Landowner Stewardship Program will achieve reductions in nutrient, sediment and pathogen pollution to surface and ground waters in the Tuolumne and Stanislaus River watersheds through education, outreach and implementation of efficient and effective BMPs on small acreage livestock facilities to manage drainage, mud, vegetation and manure. ATCAA's In-Home Water Conservation for the DAC will help water use efficiency in DAC's, 83% of the service area supplied by Phoenix Lake is in a DAC. Tuolumne River Trust's Watershed Outreach and Stewardship will focus on spreading the message about watershed health and water use efficiency while involving the community in watershed stewardship, including the Phoenix Lake watershed.

Phoenix Lake Preservation and Restoration is consistent with the State's priorities. The Phoenix Lake Preservation and Restoration protects surface water supply, while also improving water quality. The improvements to wetland and fisheries habitat will expand TUD's environmental stewardship to a new level.

Integrated Elements of Projects:
Phoenix Lake Preservation and Restoration-Phase 2 is not an isolated project with the Tuolumne-Stanislaus IRWM. Tuolumne County Resource Conservation District's Small Parcel Stormwater Pollution Prevention and Landowner Stewardship Program will achieve reductions in nutrient, sediment and pathogen pollution to surface and ground waters in the Tuolumne and Stanislaus River watersheds through education, outreach and implementation of efficient and effective BMPs on small acreage livestock facilities to manage drainage, mud, vegetation and manure. ATCAA's In-Home Water Conservation for the DAC will help water use efficiency in DAC's, 83% of the service area supplied by Phoenix Lake is in a DAC. Tuolumne River Trust's Watershed Outreach and Stewardship will focus on spreading the message about watershed health and water use efficiency while involving the community in watershed stewardship, including the Phoenix Lake watershed. The Stanislaus National Forest Upper South Fork Stanislaus River Watershed Restoration and Water Quality Enhancement Project will provide water quality improvements in the upper watershed that is a source of supply to Phoenix Lake.

Completed Work:
In 2010, the TUD received a grant from the Sierra Nevada Conservancy (SNC) to perform a comprehensive study of Phoenix Lake and its watershed, with emphasis on the environmental factors that influence water quality, storage capacity and wildlife habitat. The TUD hired consultant Horizon Water and Environment (Horizon) to assist with the study. The Phoenix Lake Preservation and Restoration Plan (PLPRP or Plan) is the culmination of a

2-year investigation that identified stressors on Phoenix Lake and developed strategies to restore and preserve the lake's functions and values.

The Plan provides TUD with a roadmap for restoring and preserving the functions and values of Phoenix Lake. Critical functions and values of the lake include water supply, water quality, wildlife habitat, recreation, and aesthetics. Additional objectives of the PLPRP include investigating opportunities for public access; outreach to local landowners and residents on Best Management Practices (BMPs) to protect the lake; and developing pre-fire management strategies.

The Lake Plan includes sediment removal activities, restoring and enhancing wetlands, creating beach and island habitats, and constructing a sediment forebay. The Lake Plan proposes to remove more than 400,000 cy of sediment from the lake. Wetland enhancements include floodplain and channel reconstruction to provide habitat diversity and manage sedimentation patterns. The proposed sediment forebay will trap coarse sediment entering the lake.

When implemented, the Lake Plan will restore storage capacity in the reservoir while preserving recreational, aesthetic and wetland values at the lake. Assuming an average annual deposition rate of 4,600 cy, removing more than 400,000 cy of sediment would extend the life of the reservoir by more than 85 years. Sediment management activities in wetland areas would further increase the life of the reservoir by trapping sediment in locations that can be regularly maintained with conventional equipment. The cost estimate for implementing the entire Lake Plan is approximately 11 million dollars.

The Plan represents the completion of the first phase of the PLPRP. Phase 2 of the PLPRP will consist of engineering design and regulatory compliance. In Phase 2, the preliminary design will be refined based on technical opportunities and constraints, as well as input received from the public and resource agencies during the regulatory compliance process. Phase 3 of the PLPRP will be project implementation (i.e., construction), and Phase 4 will consist of monitoring and maintenance. Completing the project and achieving the objectives of the PLPRP will ensure that Phoenix Lake can serve as a water resource and amenity for Tuolumne County for generations to come.

This application is focused on securing funding to complete Phase 2, complete technical design and regulatory compliance. Preliminary design has been completed in the form of 30% plans. An initial regulatory compliance overview has identified the necessary permitting agencies and level of environmental review that will be required to complete Phase 2.

Existing Data and Studies:

The Phoenix Lake Preservation and Restoration Plan (PLPRP or Plan) is the culmination of a 2-year investigation that identified stressors on Phoenix Lake and developed strategies to restore and preserve the lake's functions and values.

The Plan provides TUD with a roadmap for restoring and preserving the functions and values of Phoenix Lake. Critical functions and values of the lake include water supply, water quality, wildlife habitat, recreation, and aesthetics. Additional objectives of the PLPRP include investigating opportunities for public access; outreach to local landowners and residents on Best Management Practices (BMPs) to protect the lake; and developing pre-fire management strategies.

The lake Plan included the development a water quality improvement plan (WQIP). The purpose of the WQIP is to: (1) summarize water quality conditions in Phoenix Lake based on water quality sampling conducted in the fall

of 2010 and the spring/summer of 2011; (2) identify the potential factors that influence water quality in the lake; (3) outline management actions to potentially improve water quality; and (4) provide guidelines for long-term water quality monitoring. Chapter 4-Water Quality Monitoring & Improvement Plan of the Phoenix Lake Preservation and Restoration Plan is attached for reference.

Based on the water quality sampling conducted for the Plan, Phoenix Lake exhibits mesotrophic conditions (i.e., intermediate level of productivity) and is trending to a eutrophic state (highly productive). The rate of eutrophication has been accelerated by sedimentation, and to a lesser extent, by nutrient discharges, which are most likely from anthropogenic sources.

A comparison of bathymetric surveys from 2002 and 2010 suggests that on average approximately 4,600 cubic yards (cy) of sediment enters the lake annually. This sediment delivery estimate is more than three times the rate reported in previous studies. While the allowable storage capacity of the lake is approximately 900 acre-feet (ac-ft), the current capacity is only 600 ac-ft. Reduced lake capacity affects the water quality at Phoenix Lake, which is marginal at times and is declining due to nutrient inputs, sedimentation and exotic invasive aquatic vegetation.

Lake water quality conditions will improve with dredging and sediment management. This will slow the rate of eutrophication and extend the life of the lake, but due to its size and depth it is not possible to change the lake to an oligotrophic state (i.e., low productivity with clear, cold water).

Also developed in the Phoenix Lake Preservation and Restoration Plan were 30% Design Plans for the lake improvements. Those plans are attached for reference.

Project Map:
Please refer to Figure 3-10 for the Project Map. Also refer to Figure 3-11 for DAC tracts within the project service areas.

Project Timing and Phasing:
The Phoenix Lake Preservation and Restoration-Phase 2 is part of a larger multi-phase project. In Phase 2, the preliminary design will be refined based on technical opportunities and constraints, as well as input received from the public and resource agencies during the regulatory compliance process. Phase 3 of the PLPRP will be project implementation (i.e., construction), and Phase 4 will consist of monitoring and maintenance. Completing the project and achieving the objectives of the PLPRP will ensure that Phoenix Lake can serve as a water resource and amenity for Tuolumne County for generations to come.

Please refer to Appendix 3-C for additional information regarding Water Quality Plan and 30% Design Plans.

Insert Figure 3-10

Insert Figure 3-11

Figure 3-10 **PHOENIX LAKE WATERSHED & SERVICE AREA**

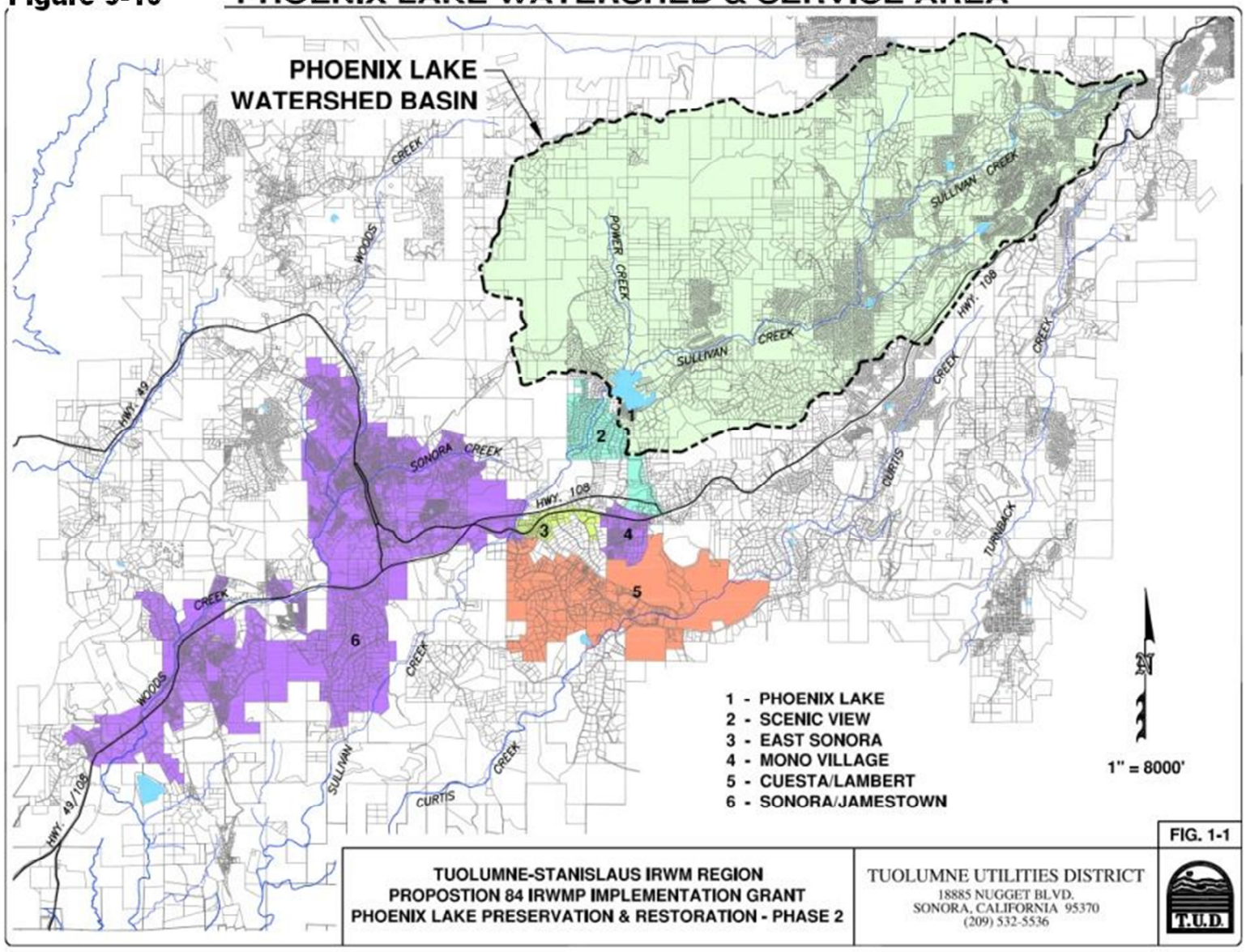
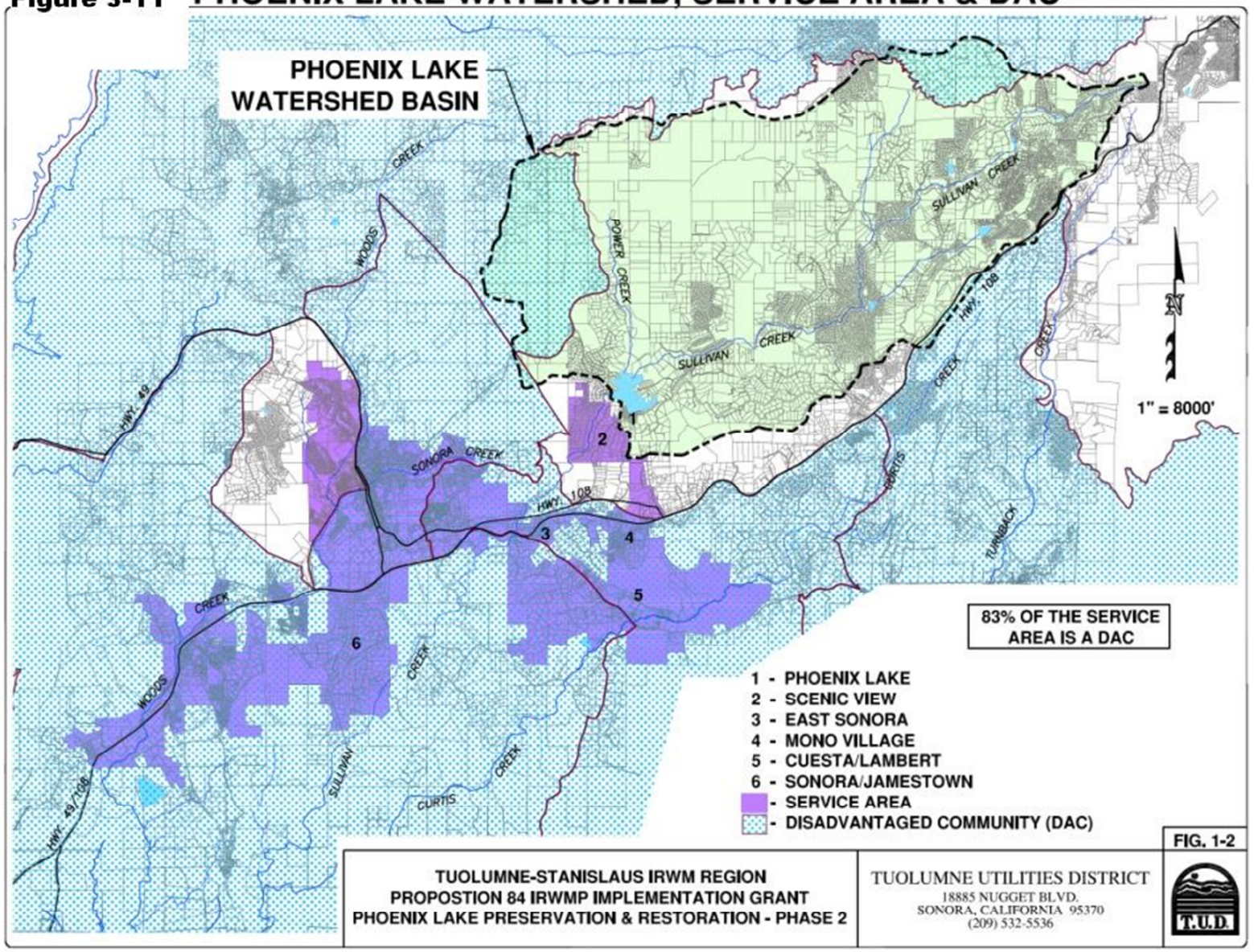


Figure 3-11 **PHOENIX LAKE WATERSHED, SERVICE AREA & DAC**



3. Work Plan Table

Tasks necessary to implement the Phoenix Lake Preservation and Restoration-Phase 2 are described in Table 1.

Table 1: Work Plan for Phoenix Lake Preservation and Restoration-Phase 2

Budget Category (a): Direct Project Administration
Task 1: Project Administration-Regional Grant Administration Description: Prepare and submit invoices. Deliverables: Invoices.
Task 2: Reporting Description: Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Budget Category (b): Land Purchase/Easement
Task 3: Surveying Description: Surveying work to describe the property required for the sediment forebay. Deliverables: Legal description of the property required for the sediment forebay.
Task 4: Land Purchase Description: Negotiate and purchase the property required for the sediment forebay. Deliverables: Legal proof of ownership of the property required for the sediment forebay.
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 5: Request for Proposals (RFP) Description: Solicit proposals for the development of complete construction plans and specifications and all necessary environmental documentation. Deliverables: Executed contract/agreement with a consulting firm (or multiple consulting firms as necessary) including a scope of work to develop a complete set of construction plans and specifications and all necessary environmental documentation.
Task 6: Engineering Design and Specifications Description: Develop a complete set of construction plans and specifications Deliverables: Construction plans and specifications
Task 7: Environmental Documentation Description: Develop all necessary environmental documentation and secure required permits/agreements with all necessary regulatory agencies. Deliverables: Required permits/agreements with all necessary regulatory agencies and environmental documentation.
Budget Category (d): Construction/Implementation
Not Applicable: There is no construction to be done with this project.
Budget Category (e): Environmental Compliance/Mitigation/Enhancement
Not Applicable: There is no environmental compliance/implementation to be done with this project.
Budget Category (f): Construction Administration
Not Applicable: There is no construction to be done with this project.
Budget Category (g): Other Costs or Activities
Not Applicable: There are no other costs to be included with this project.
Budget Category (h): Construction/Implementation Contingency
Not Applicable: There are no construction contingencies to be included with this project.

4. Other Required Information

Procedures
The TCRCD will act as overall grant administrator and manager for all eight project proponents. As such the TCRCD will have a strong leadership role in coordinating administrative functions with the other Agencies. The TCRCD will prepare a standard MOU for signature by the other grant participants that will be finalized once grant funding is secured (a draft is already in preparation).

Standards
All current design and environmental standards and procedures will be utilized. All current codes and permitting requirements will be incorporated into the construction plans and specifications. All accepted current procedures and protocols will be followed to complete all necessary environmental documentation.

Development of Monitoring Plan and Quality Assurance Project Plan
Development of performance measures and monitoring plans for the project(s) listed in the Proposal. A monitoring plan will be developed to track completion of the tasks for this project and to assure adherence to the schedule.

Status of Acquisition of Land or ROWs
A location of the proposed sediment forebay has been identified, however no negotiations with the land owner have been done. Surveying of the proposed location and negotiations with the property owner will be completed once the final design and environmental documentation has been complete.

Permits
30% design plans were completed as part of the Phoenix Lake Preservation and Restoration Plan (Phase 1). These preliminary design plans will be used to lead the consulting team toward development of a complete set of construction plans and specifications. An initial regulatory compliance overview has identified the necessary permitting agencies and level of environmental review that will be required to complete Phase 2.

Status of Preparation and Completion of Environmental Requirements
An initial regulatory compliance overview has identified the necessary permitting agencies and level of environmental review that will be required to complete Phase 2. Regulatory compliance for the sediment removal and wetland enhancement plan (project or Lake Plan) will require compliance with the California Environmental Quality Act (CEQA) and obtaining several permits or approvals from federal, state and local agencies. The project would also require compliance with the National Environmental Protection Act (NEPA), if federal funds are used to implement the project.

Submittals to Granting Agency
Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Design Plans and Specifications

30% design plans were completed as part of the Phoenix Lake Preservation and Restoration Plan (Phase 1). These preliminary design plans will be used to lead the consulting team toward development of a complete set of construction plans and specifications.

Tuolumne River Trust Tuolumne-Stanislaus Watershed Outreach and Stewardship (T-S IRWM Project No 22)

Tuolumne River Trust
Contact:
Patrick Koepele
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patrick@tuolumne.org

Program Preferences

☑ Include Regional Projects/Programs
☐ Integrate water management within hydrologic region
☐ Effectively resolve significant water related conflicts within or between regions
☑ Contribute to attainment or one or more objectives to CALFED
☐ Address critical water supply/quality needs of DAC
☐ Effectively integrate water management with land use planning
☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

☑ Drought preparedness
☑ Use and reuse water more efficiently
☑ Climate change response actions
☑ Expand environmental stewardship
☐ Practice integrated flood management
☐ Protect surface water and groundwater quality
☐ Improve tribal water & natural resources
☐ Ensure equitable distribution of benefits

CALFED Primary Objectives

☑ Ecosystem quality
☐ Water supply
☑ Water quality
☐ Levee system integrity

1. Executive Summary

a. Project Description

Through this project we will implement a public outreach and watershed stewardship program to engage the public in wise water use and watershed stewardship. We will do this through a public education campaign that includes the internet and social media as well as presentations, news articles, and events. We will also offer 2-3 watershed stewardship opportunities, such as river cleanups, noxious weed control projects, etc. to directly engage the public in the care of our watersheds.

b. Project Benefits

The purpose of this project is two-fold: to deliver a unified regional message about the importance of watershed health and water use efficiency and to involve the community in watershed stewardship through volunteer workday activities.

Through a variety of outreach strategies, including the internet and social media, presentations, news articles, and events we will deliver a message about the importance of water use efficiency to ensuring a reliable water supply for our region while maintaining environmental water quality. This message will be accompanied by tips, suggestions, and strategies that residents can employ in the home and on the landscape to ensure wise use of water. This approach will increase the community's awareness and knowledge of water use efficiency thus increasing the region's water supply reliability. This qualitative benefit could be quantified through the avoided water supply purchase costs and avoided water shortage costs.

Beyond reducing water use, this program will also contribute to reduced non-point source runoff that may otherwise carry pollutants to local creeks and streams. This benefit would be realized as a reduced cost of protecting, restoring, or enhancing beneficial uses.

We will round out this outreach campaign with a series of volunteer workdays to involve community members directly in watershed stewardship, habitat restoration, and management and maintenance of recreational facilities. We anticipate organizing river cleanups, noxious weed control projects, meadow restoration, etc. to directly engage the public in the stewardship of our watersheds and restoration and enhancement of native fish and wildlife habitat. Recreation improvements realized through these workdays will result in increased attractiveness of the recreational facilities, such as hiking trails, and which will lead to an increase in use and value of the facility.

Water Supply	*Through this outreach program, we expect to directly engage 440 people in presentations, events, and workdays. Additionally, we will reach people through media placements (newspaper, web, and/or radio).* *Based on a number of assumptions described below, we would expect to realize a water savings of approximately 3,510 gallons/day or 1,281,000 gallons per year.*
Water Quality	*Through this project, residents will learn about surface water runoff and where water ultimately goes. This outreach message coupled with water saving approaches, in particular savings in landscape irrigation, we would expect to see a reduction in surface water runoff, thus a corresponding reduction in sediments and pollutants entering local waterways.*
Environmental Stewardship	*Through the stewardship component of this project, we will contribute to restoration and cleanup of local creeks, meadows, and other habitat types. We expect that we will help restore and/or cleanup approximately 10 acres of meadow habitat and approximately 1 linear mile of streambed. We will work with the Stanislaus National Forest and other agencies to identify "shovel-ready" projects in which volunteer work can be incorporated to help complete the work.*

c. Cost and Schedule

Grant funding requested under Proposition 84 for implementation of the Tuolumne-Stanislaus Watershed Outreach and Stewardship project is $50,000. An additional $85,757 of funding through private, local, and federal sources has been secured to meet the estimated total cost of $135,757.

We have already begun working on this project through a series of volunteer workdays and organized events over the past four years.

"Project costs must be incurred after September 30, 2008 to be considered as funding match."

Match:
National Forest Foundation 2012: $28,313
National Forest Foundation 2013: $30,442
Sonora Area Foundation Access Grant (July 11, 2009): $27,002

2. Proposed Work

Project Description:
The communities in Tuolumne and southern Calaveras County rely on water from the Upper Tuolumne and Stanislaus Watersheds, while discharges of waste and stormwater flow into small tributary creeks and streams that run into the Tuolumne and Stanislaus Rivers. Maintaining the health of these watersheds while using water efficiently will help ensure secure, clean water supplies for future generations, ensure that environmental water quality remains high, and contribute to maintaining ecological health. This program will implement outreach efforts at the watershed scale.

This watershed outreach and stewardship program is designed to improve the communities' knowledge of watersheds, watershed health, water quality, and water use efficiency. An important component of this overall outreach effort is to involve the community in stewardship activities. As such we will also sponsor a series of community workdays to accomplish restoration activities, such as noxious weed control, meadow restoration, river cleanups, etc.

Goals and Objectives:
The purpose of this project is two-fold: to deliver a unified regional message about the importance of watershed health and water use efficiency and to involve the community in watershed stewardship through volunteer workday activities. Specifically, we will accomplish the following goals:

- Increase understanding of watershed processes and watershed health.
- Increase knowledge and understanding of where drinking water comes from
- Increase understanding of impacts of wastewater and stormwater runoff
- Increase knowledge of water use efficiency opportunities and strategies
- Increase community stewardship of the Tuolumne and Stanislaus Watersheds

Purpose and Need:
The purpose of this project is two-fold: to deliver a unified regional message about the importance of watershed health and water use efficiency and to involve the community in watershed stewardship through volunteer workday activities.

The communities in Tuolumne and Southern Calaveras Counties rely on water from the Upper Tuolumne and Stanislaus Watersheds, while discharges of waste and stormwater flow into small tributary creeks and streams that run into the Tuolumne and Stanislaus Rivers. Maintaining the health of these watersheds while using water efficiently will help ensure secure, clean water supplies for future generations, ensure that environmental water quality remains high, and contribute to maintaining ecological health. This program will implement outreach efforts at the watershed scale.

Integrated Elements of Projects:
The Watershed Outreach and Stewardship Project integrates with other projects in this IRWMP proposal. The watershed-focus approach advanced in this project will provide a greater opportunity to foster community participation in support of watershed stewardship, watershed management, and water use efficiency. Through targeted outreach efforts, citizens are encouraged to play a central and substantive role in the stewardship of the watershed in which they live, and to take action to complete projects where they are integral to resource management success, such as installing water saving devices and participating in watershed restoration efforts.

Watershed scale emphasis will also provide for a greater ability to effectively coordinate among agencies for accelerated attainment of environmental thresholds and contribute to reduction of source pollutant loads.

The Outreach and Stewardship Project complements the Forest Service's Watershed Restoration and Water Quality Enhancement Project, TCRCD's Small Parcel Storm Water Pollution Prevention and Landowner Stewardship Program, ATCAA's In-Home Conservation for the DAC, TUD's Phoenix Lake Preservation and Restoration, and GCSD's Big Oak Flat Water Quality Projection Project by providing educational information that explains the necessity of projects like this, and creating opportunities for public participation in watershed restoration projects.

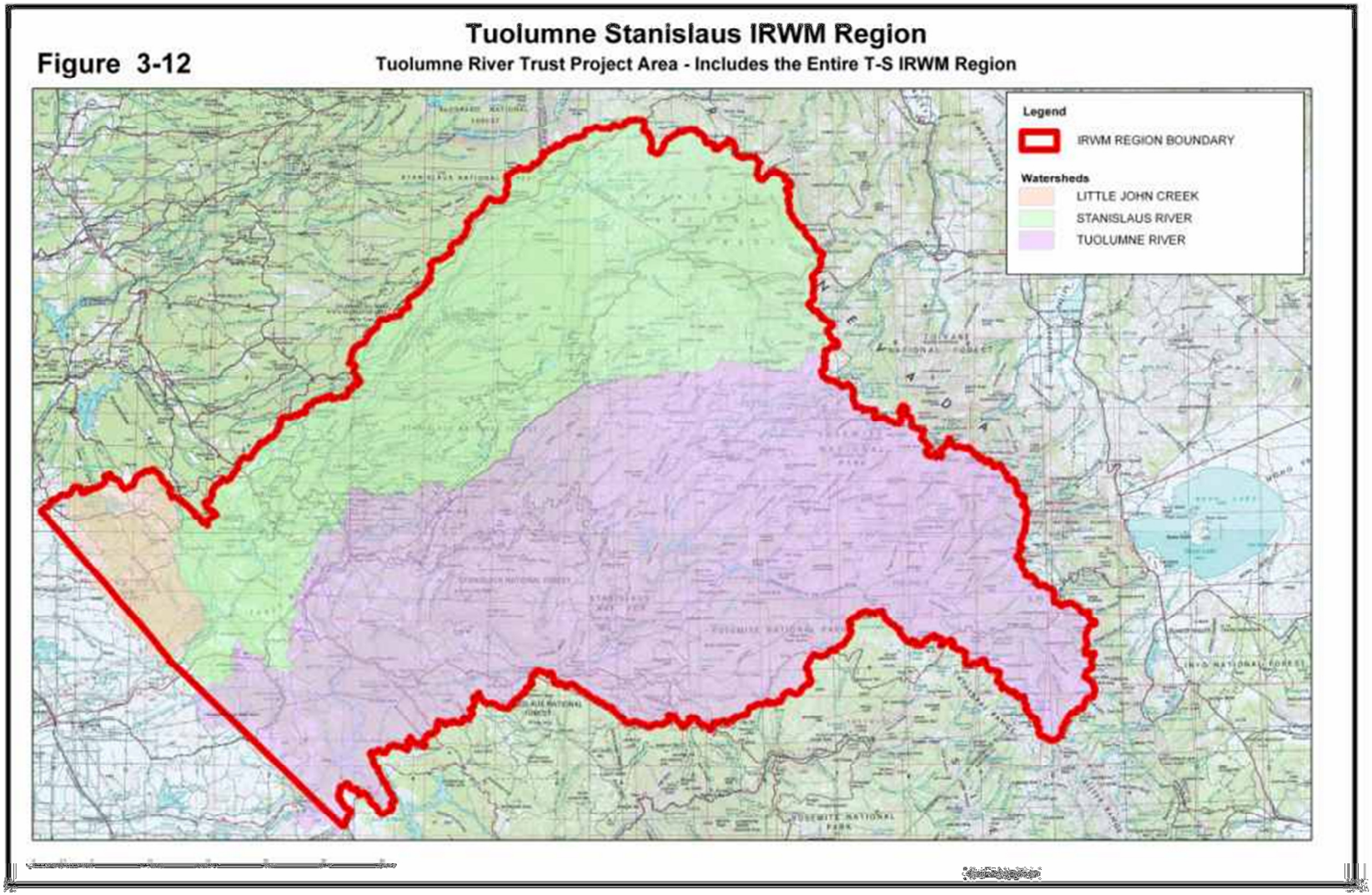
Completed Work:
This is an Outreach and Stewardship Project. No National Environmetal Policy Act (NEPA) or California Environmental Quality Act (CEQA) compliance is required to undertake the outreach portion of the work. Volunteer workdays will only be coordinated for existing projects where NEPA/CEQA is already complete. As an example, we may undertake volunteer streambank stabilization in degraded meadows, but this would only occur in meadows with fully developed plans, completed NEPA/CEQA, and environmental permits that are secured. Alternatively, volunteer workdays may be coordinated to assist in maintaining trails along the Tuolumne River; work such as this is not subject to NEPA/CEQA compliance. We will not be developing new watershed stewardship projects through this project, but rather we will coordinate volunteers to assist with existing projects.

Existing Data and Studies:
In conducting this effort, we will be following the EPA's watershed outreach guide, *Getting In Step: A Guide for Conducting Watershed Outreach Campaigns, 3rd Edition*.

Project Map:
The project will occur throughout the Tuolumne-Stanislaus IRWMP region. (Figure 3-12)

Project Timing and Phasing:
This project is part of ongoing outreach efforts conducted by the Tuolumne River Trust. Over the past four years, the Trust has been provided a series of educational presentations to local service clubs and schools, sponsored events, and coordinated watershed workdays to cleanup local streams, inventory meadow conditions, and maintain recreational trails in the Tuolumne Watershed.

Through this project, we will be able to continue these efforts through 2015. However, continuation of outreach is not dependent on other work and can be conducted on a stand-alone basis. The work proposed for this project is also scalable depending on the amount of funding actually received.


Tuolumne Stanislaus IRWM Region
Figure 3-12
Tuolumne River Trust Project Area - Includes the Entire T-S IRWM Region
Legend
IRWM REGION BOUNDARY
Watersheds
LITTLE JOHN CREEK
STANISLAUS RIVER
TUOLUMNE RIVER

3. Work Plan Table

Tasks necessary to implement the Tuolumne-Stanislaus Watershed Outreach and Stewardship are described in Table 1.

Table 1: Work Plan for the Tuolumne-Stanislaus Watershed Outreach and Stewardship

Budget Category (a): Direct Project Administration
Task 1: Administration Description: Prepare and submit invoices. Deliverables: Invoices.
Task 2: Reporting Description: Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Task 3: Evaluation Description: Implement project evaluation based on whether or not we met our deliverables, number of individuals reached through outreach efforts, number of individuals involved in stewardship activities. Deliverables: Assessment of project success.
Budget Category (b): Land Purchase/Easement
Not Applicable: No land purchases or easements are required to implement this project
Budget Category (c): Planning/Design/Engineering/Environmental Documentation

Task 4: Planning
Description: Overall project planning, developing message and outreach materials. Scheduling presentations, coordinating events, scheduling and coordinating workdays.
Deliverables:
• Detailed Schedule of:
  ○ 3 presentations per year
  ○ 1 event per year
  ○ 4 volunteer watershed stewardship workdays per year
  ○ 3 media placements per year
• Refined outreach materials including:
  ○ Updated Powerpoint Presentation
  ○ Brochures, Flyers, FAQ Sheets

Budget Category (d): Construction/Implementation
Task 5: Presentations Description: Give minimum of 3 presentations to local community groups, service organizations, schools, etc. per year using the powerpoint presentation. The presentations will highlight the Tuolumne and Stanislaus Watersheds, the source of drinking water in local communities, practices and strategies for using water efficiently, and information about where wastewater and stormwater go and how to minimize runoff. Deliverables: • Minimum of 3 presentations to local groups/year (6 total) • Total of 60 participants/year (120 total)
Task 6: Events Description: We will sponsor or co-sponsor one water- or environment related event per year in the community. During this event, we will provide educational materials to participants and give a presentation on watershed processes and water supply in the region. Deliverables: • At least one water- or environment-related event per year in the community (two total)

• 100 participants in each event (200 total)
Task 7: Volunteer Workdays Description: We will sponsor and coordinate 4 volunteer watershed stewardship workdays per year. Examples of workdays include river cleanups, meadow restoration, streambank stabilization, noxious weed removal, trail maintenance, etc. Deliverables: • 4 volunteer workdays per year (8 total) • 60 participants in these workdays per year (120 total)
Task 8: Media Placements Description: We will work with local media outlets (radio, newspaper, web) to secure three media placements per year about watershed health, water use efficiency, water quality, and/or about significant milestones in other IRWMP-funded projects. Deliverables: 3 media placements per year (6 total)
Budget Category (e): Environmental Compliance/Mitigation/Enhancement
Not Applicable: No environmental compliance/mitigation/enhancement is required to implement this project.
Budget Category (f): Construction Administration
Not Applicable.
Budget Category (g): Other Costs or Activities
Not Applicable.
Budget Category (h): Construction/Implementation Contingency
Not Applicable.

4. Other Required Information

Procedures
Tuolumne-Stanislaus IRWMP implementation grant participating organizations will formally establish their partnership and commitment to funded program through a financial agreement. The Tuolumne County Resource Conservation District will be the contracting agency with the State, while each participating organization will be a subgrantee. Coordination of grant related activities will occur through ongoing monthly IRWMP meetings.

Standards
This is not a construction project, thus no construction standards, health and safety standards, laboratory analysis, or accepted classifications methods will be used to implement this project.

Development of Monitoring Plan and Quality Assurance Project Plan
The basic success of the project is defined by meeting the measurable deliverables of the grant. We will track and report progress on these deliverables with pictures and video. We will also use a volunteer evaluation form to gain input regarding volunteer experience and identify areas for improving our program. Finally, we will conduct an end project meeting with the broader Tuolumne-Stanislaus IRWMP to review successes of the program and identify areas for improvement. This will culminate in a written report at the end of grant period.

Permits
No permits are necessary to conduct this project.

Status of Preparation and Completion of Environmental Requirements
This is an outreach program, thus CEQA is not required.

Submittals to Granting Agency
Status reports, in the form requested by the granting agency, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the grant contract will also be submitted to the granting agency.

Calaveras County Water District Douglas Flat/Vallecito Storage Pond Project (T-S IRWM Project No. 25)

Calaveras County Water District
Contact:
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jeffreym@ccwd.org

Program Preferences

- ☐ Include Regional Projects/Programs
- ☐ Integrate water management within hydrologic region
- ☐ Effectively resolve significant water related conflicts within or between regions
- ☐ Contribute to attainment or one or more objectives to CALFED
- ☑ Address critical water supply/quality needs of DAC
- ☑ Effectively integrate water management with land use planning
- ☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

- ☐ Drought preparedness
- ☑ Use and reuse water more efficiently
- ☐ Climate change response actions
- ☑ Expand environmental stewardship
- ☐ Practice integrated flood management
- ☑ Protect surface water and groundwater quality
- ☐ Improve tribal water & natural resources
- ☐ Ensure equitable distribution of benefits

CALFED Primary Objectives

- ☑ Ecosystem quality
- ☐ Water supply
- ☑ Water quality
- ☐ Levee system integrity

1. Executive Summary

a. Project Synopsis

The Calaveras County Water District recently upgraded its Douglas Flat/Vallecito Wastewater Treatment Plant with funding through a $4.4 million SWRCB grant. The project upgraded the facility to tertiary treatment with a design flow of 86,500 gallons per day. The project has been completed and on February 8, 2013, the District was notified by the Central Valley Regional Water Quality Control Board that it had adopted Order R5-2013-0009, Waste Discharge Requirements for the District's Douglas Flat/Vallecito Wastewater Treatment Facility.

Since completion of plant upgrades State regulations have changed to require additional storage capacity for the upgraded facility. The current storage pond has a capacity of 59.2 acre feet, which is currently 75,000 gallons per day. However, with a design flow of 86,500 gallons per day, an additional 26.8 acre feet of storage is required to meet the updated state regulations for 100 year storm event standards (for a total of 86 acre feet). While the increased use of spray fields is an option, as the plant is now permitted for tertiary treatment there is a strong potential for recycled water use if storage ponds are expanded. This could benefit local agricultural uses, and reduce reliance on raw water

In 2007 the District engaged the services of James C. Hanson, Consulting Civil Engineer, to prepare a feasibility study for the Douglas Flat/Vallecito Reservoir (see Appendix 3-D-2). The study identified two scenarios based on whether or not the project was located partially within the estimated boundary of a high-voltage power line easement. Following review the District decided to pursue an 86 acre foot capacity pond. (Scenario A, Alternative 2)

This proposed design phase project will be the first step in increasing the storage capacity of the effluent reservoir near the existing Douglas Flat/Vallecito Wastewater Treatment Plant to allow for full utilization of the entire design capacity of the treatment facility. The treatment plant produces high quality tertiary treated water which can be used for recycling. Increasing the capacity of the flow would also improve groundwater quality since there would be no need for septic tanks.

The design phase would include development of plans and specifications for the construction of the new 86 acre foot storage pond. All environmental documentation and permitting would be completed, including the application for recycled water use per requirements of Title 22. Once design and permitting is completed, the District would complete

construction of a new storage pond with increased capacity.

The new storage pond would insure that all existing infill and existing septic facilities would be able to tie into the facility. This would have a positive impact on groundwater quality in the area. The original wastewater plant was built in order to mitigate public health concerns. Although the plant has reduced these concerns, further improvement to eliminate septic tanks would benefit water quality.

b. Project Benefits

In addition to the water quality benefits of the proposed project, there is a strong potential for recycled water use, including agricultural if the storage ponds are expanded. There as a number of local vineyards and wineries that would be able to put the reclaimed water to beneficial use. For several years, California has experienced drought conditions, and critical water supply sources, such as the Stanislaus River, have become less dependable. Agriculture is a key industry in the Douglas Flat/Vallecito/ Murphys area. A larger storage pond, along with the permits and Title 22 authorization, will provide additional, reliable and a sustainable supply high of quality tertiary treated water, even in times of drought. This supply will help reduce raw water diversions from the Stanislaus River.

In summary, the benefits of this project to the Douglas Flat/Vallecito area are:

1. Provides additional treatment and storage pond capacity that ensures all infill and existing septic facilities have the ability to tie into the treatment facility. This would have a positive impact on the drinking wells and groundwater in the area.
2. Reduces the discharge to, and storage of, treated effluent to the Douglas Flat/Vallecito Wastewater Treatment Facility Storage Pond and spray fields.
3. Provides reclaimed water to local agriculture and helps reduce dependence on raw water from the Stanislaus River.

Water Supply	*In 2011 the District received a SWRCB grant to upgrade the wastewater treatment facility to tertiary treatment. The current storage pond has a capacity of 59.2 acre feet, which is currently 75,000 gallons per day. However, with a new design flow of 86,500 gallons per day, an additional 26.8 acre feet of storage is required (for a total of 86 acre feet). As the plant is now permitted for tertiary treatment, there is a strong potential for recycled water use, including agricultural, if the storage ponds are expanded.* *Secondary benefit of the larger storage pond is that the facility is now in the compliance with the state regulations for a 100 year storm event.*
Water Quality, Water Treatment	*The recently completed treatment facility upgrade allowed the District to lift a 2005 moratorium that prohibited new connections. The moratorium prevented both older homes with septic systems and new homes from connecting to the District's collection and treatment system. The recent plant upgrades now*

allows the District to serve all existing septic systems and new infill homes in the Douglas Flat/Vallecito area.

The Calaveras County Groundwater Protection Program Final Report indicates that the concentration of onsite septic systems within the service area of the project ranges up to 500 per square mile. The report finds that both groundwater and surface waters may be impaired which is a public health and safety concern. Calaveras County receives a number of complaints regarding failed septic systems annually.

c. Cost and Schedule

The total cost of this phase of the project will be $210,014, funding in the amount of $200,000 is being requested for the proposed storage pond project. Additional administrative and engineering costs will be absorbed by the District. The cost of these efforts will be used as a funding match of $10,014. A partial funding match waiver to cover the remaining 25% required match by DWR is being requested for Disadvantaged Community Assistance, details on the requested waiver are included in Attachment 10.

A feasibility study has been completed in 2007. This phase of the project will fund the design and permitting processes.

2. Proposed Work

Project Description:

The Calaveras County Water District recently upgraded its Douglas Flat/Vallecito Wastewater Treatment Plant with funding through a $4.4 million SWRCB grant. The project upgraded the facility to tertiary treatment with a design flow of 86,500 gallons per day. The project has been completed and on February 8, 2013, the District was notified by the Central Valley Regional Water Quality Control Board that it had adopted Order R5-2013-0009, Waste Discharge Requirements for the District's Douglas Flat/Vallecito Wastewater Treatment Facility.

Since completion of plant upgrades State regulations have changed to require additional storage capacity for the upgraded facility. The current storage pond has a capacity of 59.2 acre feet, which is currently 75,000 gallons per day. However, with a design flow of 86,500 gallons per day, an additional 26.8 acre feet of storage is required to meet the updated State regulations to 100 year storm event standards (for a total of 86 acre feet). The increased use spray fields is an option, however as the plant is now permitted for tertiary treatment, but there is a strong potential for recycled water use, including agricultural if the storage ponds are expanded.

Despite the recent treatment upgrades the limiting factor of the current facility remains effluent storage. The current storage pond has a capacity of 59.2 acre feet, which is currently 75,000 gallons per day. However, with a design flow of 86,500 gallons per day, additional 26.8 acre feet of storage is required (for a total of 86 acre feet). The increased use of spray fields is an option, however as the plant is now permitted for tertiary treatment there is a strong potential for recycled water use. This could include agricultural uses if the storage ponds are expanded.

In 2007 the District engaged the services of James C. Hanson, Consulting Civil Engineer, to prepare a feasibility study for the Douglas Flat/Vallecito Reservoir (see Appendix 3-D-2). The study identified two scenarios based on whether or not the project was located partially within the estimated boundary of a high-voltage power line easement. Following review the District decided to pursue an 86 acre foot capacity pond. (Scenario A, Alternative 2)

This proposed design phase project will be the first step in increasing the storage capacity of the effluent reservoir near the existing Douglas Flat/Vallecito Wastewater Treatment Plant to allow for full utilization of the entire design capacity of the treatment facility. The treatment plant produces high quality tertiary treated water which can be used for recycling. Increasing the capacity of the flow would also improve groundwater quality since there would be no need for septic tanks.

The design phase would include development of plans and specifications for the construction of the new 86 acre foot storage pond. All environmental documentation and permitting would be completed, including the application for recycled water use per requirements of Title 22. Once design and permitting is completed, the District would complete construction of a new storage pond with increased capacity.

The new storage pond would insure that all existing infill and existing septic facilities would be able to tie into the facility. This would have a positive impact on groundwater quality in the area. The original wastewater plant was built in order to mitigate public health concerns. Although the plant has reduced these concerns, further improvement to eliminate septic tanks would benefit water quality.

Goals and Objectives:
The goal of this project is to create plans and designs for an expanded storage facility which will in turn improve groundwater in the Douglas/Flat Vallecito area and put the treated effluent to beneficial use.

Purpose and Need:
The Douglas Flat/Vallecito Wastewater Treatment Facility was recently upgraded to tertiary treatment with a design flow of 86,500 gallons per day, which requires a storage pond with capacity of 86 acre feet. However, the current storage pond has a capacity of 59.2 acre feet. In order to handle the additional effluent, the District proposes to increase the storage capacity. The increased use spray fields are an option. However as the plant is now permitted for tertiary treatment, putting the recycled water to beneficial use, including agricultural uses, would be a better use of resources.

Integrated Elements of Projects:
The Douglas Flat/Vallecito Storage Pond Project works towards the common IRWM objective of improving infrastructure to meet wastewater discharge/disposal requirement of a Disadvantaged Community (DAC). It also complements the other projects in the proposal on a regional basis by meeting Statewide priorities of reusing water more efficiently and protecting surface and groundwater quality.

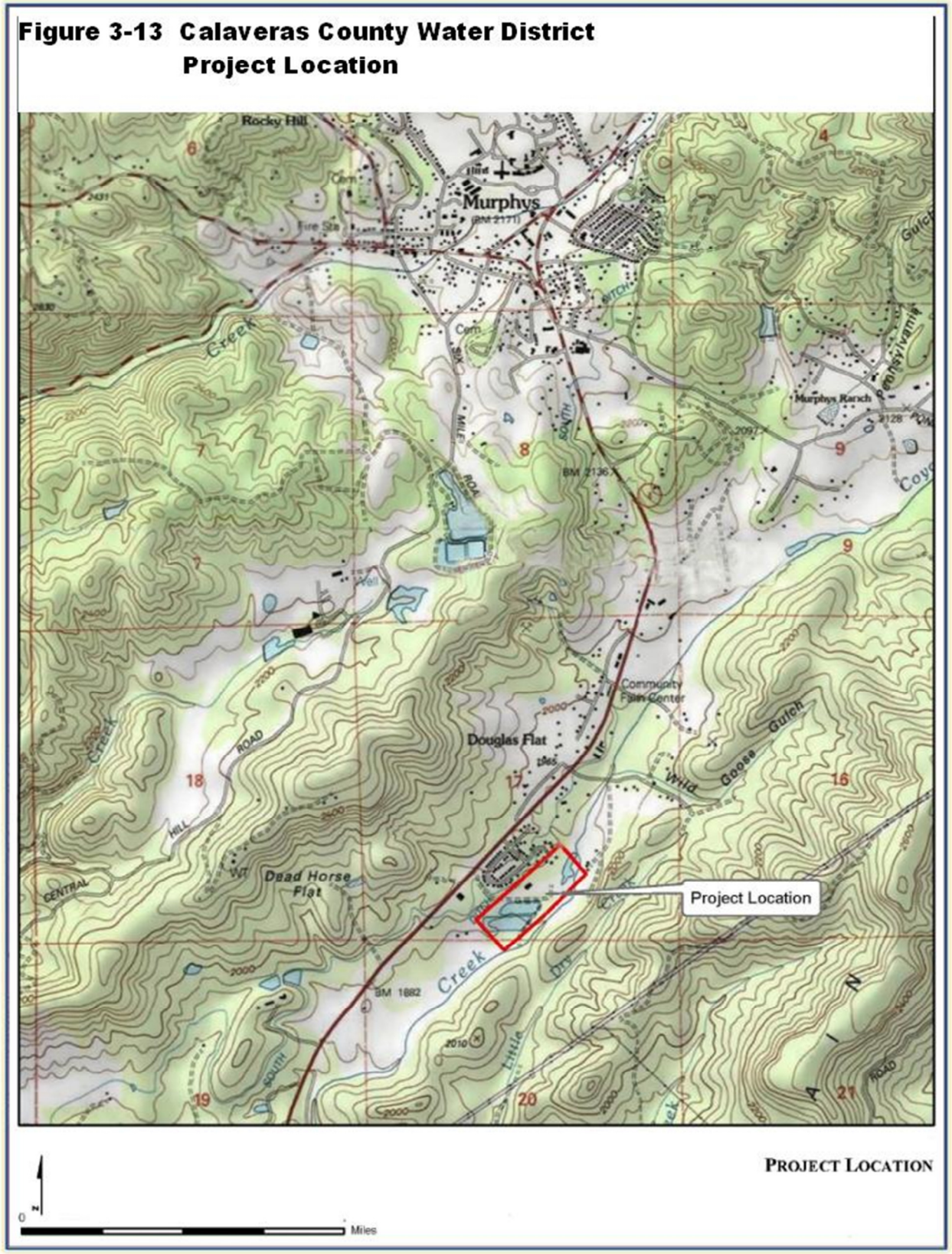
Completed Work:
A feasibility study was completed by James C. Hanson, Consulting Civil Engineer Appendix 3-D (Att3_IG2_TuolStan_WorkPlan_5of5).

Existing Data and Studies:
In 2007 the District engaged the services of James C. Hanson, Consulting Civil Engineer, to prepare a Feasibility Study for the Douglas Flat/Vallecito Reservoir, see Appendix 3-D. The scope of the evaluation consisted of an initial conceptual reservoir design, a geological evaluation, preparation of preliminary reservoir designs and cost estimates. The study identified two scenarios based on if the project was located outside or partially within the estimated boundary of a high-voltage power line easement. Each scenario had two alternatives, one with a 46 or 47 acre-foot storage pond; the other with an 86 or 89 acre-foot option. Based on benefits and costs, the District has decided to pursue the aforementioned 86 acre foot storage pond.

Project Map:
See Figure 3-13.

Project Timing and Phasing:
The Douglas Flat/Vallecito Storage Pond Project is a three phase project. Phase One consisted of the Feasibility Study for the Douglas Flat/Vallecito Reservoir, completed in 2007. Phase Two, the design and permitting phase, will start in October 2013. The design should be completed by March 2014. The permitting process, in particular, could take up to one year, and should be completed by February 2015.

Figure 3-13 Calaveras County Water District
Project Location



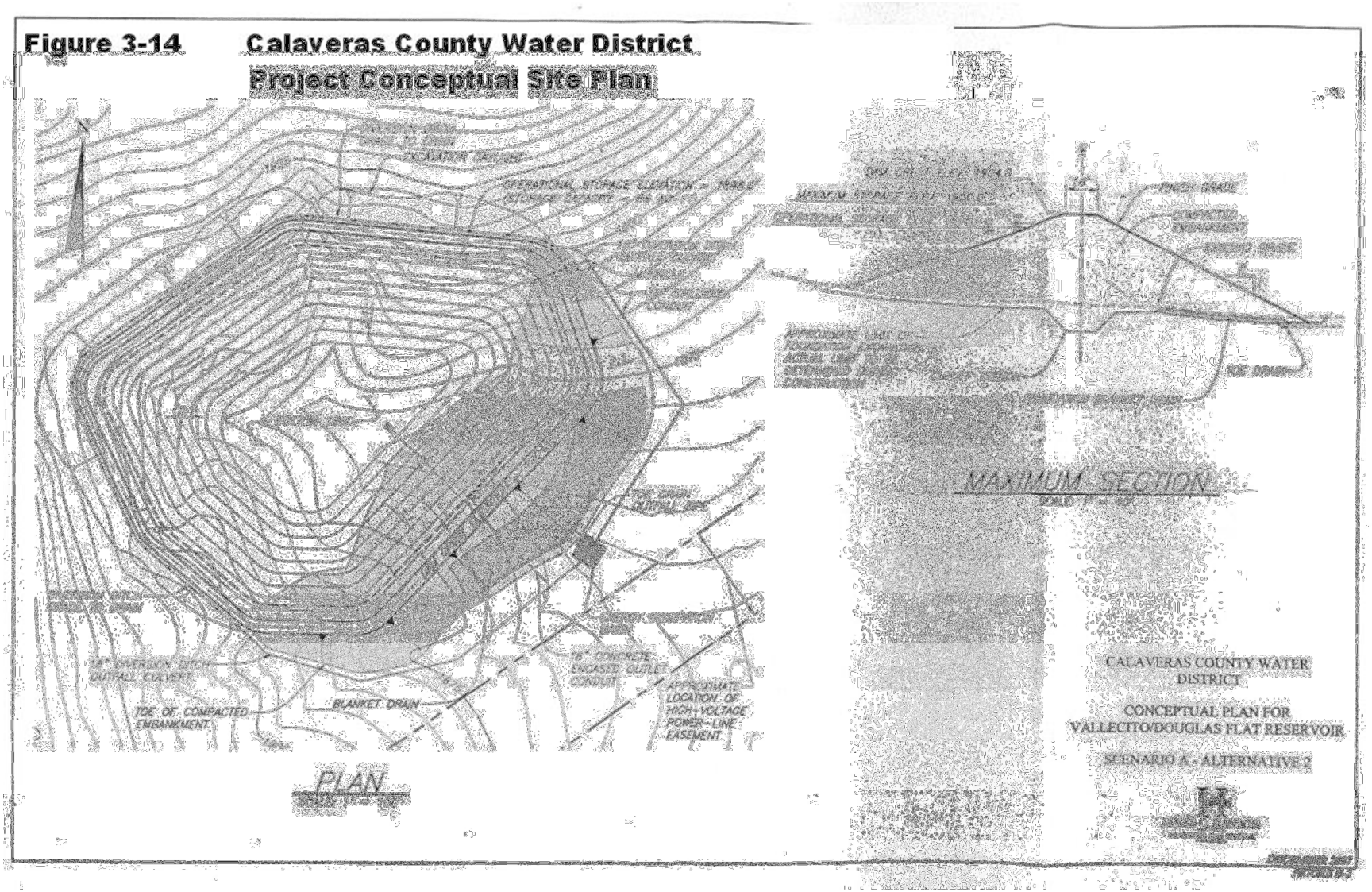


Figure 3-14
Calaveras County Water District
Project Conceptual Site Plan
EXCAVATION LINE
OPERATIONAL STORAGE ELEVATION = 1498.0'
18" DIVERSION DITCH OUTFALL CULVERT
TOE OF COMPACTED EMBANKMENT
BLANKET DRAIN
18" CONCRETE ENCASED OUTLET CONDUIT
APPROXIMATE LOCATION OF HIGH-VOLTAGE POWER-LINE EASEMENT
PLAN
MAXIMUM SECTION
CALAVERAS COUNTY WATER DISTRICT
CONCEPTUAL PLAN FOR VALLECITO/DOUGLAS FLAT RESERVOIR
SCENARIO A - ALTERNATIVE 2

3. Work Plan Table

Tasks necessary to implement the Calaveras County Water District Douglas Flat/Vallecito Storage Pond Project (Project #25) are described in Table 1.

Table 1: Work Plan for Calaveras County Water District Douglas Flat/Vallecito Storage Pond Project.

Budget Category (a): Direct Project Administration
Task 1: Administration Description: Prepare and administer all District contracts, ensure proper record keeping of all timesheets and invoices related to the project. Also includes all costs associated with submitting reimbursement requests to the State for all grant related costs. Deliverables: All project contracts, timesheets and invoices audited and maintained for conformity to grant requirements; reimbursement requests to the State submitted accurately and on-time.
Task 2: Reporting Description: Prepare quarterly and final reports as specified in the Grant Agreement. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 3: Request for Proposals Description: Develop scope of work and requirements; prepare and distribute "Request for Proposals;" review proposals and select consultant. Deliverables: Distribute Request for Proposal, select consultant.
Task 4: Design Description: Prepare engineering design and specifications Deliverables: Final Plans and Specifications for bidding.
Task 5: Environmental Documentation Description: Consultant to prepare all required environmental documentation; District Counsel to prepare a CEQA Categorical Exemption document for this project. Deliverables: All required environmental documentation and CEQA Notice of Categorical Exemption Document.
Budget Category (g): Other
Task 9: Permitting Description: Consultant and staff will work with the State Department of Health Services and the Central Valley Regional Water Quality Control Board to describe the use of recycled water per requirement of Title 22. Deliverables: Submit permit and Title 22 request, receive approved use of recycled water per Title 22.

4. Other Required Information

Procedures
The Calaveras County Water District is a member of the Tuolumne-Stanislaus IRWM. The TCRCD will act as overall grant administrator and manager for all eight project proponents. As such the TCRCD will have a strong leadership role in coordinating administrative functions with the other Agencies. The TCRCD will prepare a standard MOU for signature by the other grant participants that will be finalized once grant funding is secured (a draft is already in preparation).

Standards
The Calaveras County Water District will follow all engineering and permitting standards and applicable state regulations pertaining to recycled water use per requirements of Title 22.

Development of Monitoring Plan and Quality Assurance Project Plan
The District will implement a Monitoring and Quality Assurance Plan that ensures all designs and plans meet required engineering standards. The District will also monitor and work with consultant on development and submission of required documentation and reports for permit applications and request for Title 22 authorizations from DHS and RWCQB. All documentation, including permits, will be presented as part of the IRWM Grant quarterly and/or final report. The District will use a self reporting model that maintains copies of all designs, plans, reports, applications and permits, when issued. Results will be compared to desired outcomes to ensure the project meets its goals and objectives.

Status of Acquisition of Land or ROWs
Phase Two of the project also includes the discussions and initial negations for acquisition of adjacent property, which will be completed in Phase Three.

Status of Preparation and Completion of Environmental Requirements
This phase of the project will include the preparation and completion of all environmental documentation and permitting, including the application for recycled water use per requirements of Title 22.

Submittals to Granting Agency
The District will submit all invoices and quarterly status reports to DWR. A final report will be submitted once the project is completed.

Groveland Community Services District GCSD/BOF (LS#16) Water Quality Protection Project (T-S IRWM Project No. 27)

Groveland Community Services District
Contact:
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(209)962-7161
gmello@gcsd.or

Program Preferences

☑ Include Regional Projects/Programs
☐ Integrate water management within hydrologic region
☐ Effectively resolve significant water related conflicts within or between regions
☑ Contribute to attainment or one or more objectives to CALFED
☑ Address critical water supply/quality needs of DAC
☑ Effectively integrate water management with land use planning
☐ Flood Management -projects that provide multiple benefits

Statewide Priorities

☐ Drought preparedness
☐ Use and reuse water more efficiently
☑ Climate change response actions
☑ Expand environmental stewardship
☐ Practice integrated flood management
☑ Protect surface water and groundwater quality
☐ Improve tribal water & natural resources
☐ Ensure equitable distribution of benefits

CALFED Primary Objectives

☑ Ecosystem quality
☐ Water supply
☑ Water quality
☐ Levee system integrity

1. Executive Summary

a. Project Description

The Groveland Community Services District, Groveland, CA (GCSD) Sewer Lift Station (#16) adjacent to State Highway 120 at the west end of the Big Oak Flat Community is in urgent need of reconstruction. This is the single most urgent capital improvement project in all of GCSD's service area. The current lift station was constructed in 1976 and needs to be reconstructed in order to dramatically reduce the potential of a sewage spill into the adjacent Rattlesnake Creek, which is tributary to Lake Don Pedro and the Tuolumne River. The objective of this project is to finish lift station planning and design and reconstruct this infrastructure using state-of-the-art equipment and materials. The lift station components will be compatible with equipment that the District already uses, allowing for parts to be interchangeable and operators to have a familiarity and knowledge of other existing similar equipment. It will also provide system redundancy and back-up pumping capability at the lift station. Should a pump at the reconstructed lift station fail or need to be removed or taken out of service for maintenance reasons, the second pump system would be put into action allowing operations to resume immediately.

The expected outcome of this project will be to provide a reconstructed lift station for the Big Oak Flat Community (Disadvantaged Community) that is reliable and will serve the needs of the community for many years to come.

The beneficiaries of this project will be: GCSD; the entire Big Oak Flat Community, which is a Disadvantaged Community based on median household income, all end users of Don Pedro Reservoir and the Tuolumne River for swimming, boating and drinking/irrigation water; the flora and fauna that live along the Rattlesnake Creek, etc.

b. Project Benefits

Water Quality, Water Treatment	*The water quality protection benefit that this project will provide is significant in that it mitigates the potential of a spill into Rattlesnake Creek and Don Pedro Reservoir, which would drastically degrade water quality. An estimated spill of up to 10,000 gallons per day of raw sewage into Rattlesnake Creek and Don Pedro Reservoir has the potential to contaminate the domestic water supply for a population of approximately 210,000 and affect the raw water supply for over 200,000 irrigated acres of agricultural land.* *In addition to impacting domestic, raw, and environmental water resources the existing extensive recreational opportunities related to Don Pedro Reservoir would be compromised. The Don Pedro Reservoir is utilized by between 300,000 – 350,000 visitors annually.*
Power Cost Savings and Power Production	*By replacing the existing lift station pump, the GCSD District Engineer estimates that the District will save approximately 30% on power costs for this lift station. The actual cost savings will be approximately $100 per month.*
Energy	*By replacing the existing lift station pumps with multiple, more efficient pumps which are installed in series, we will save approximately 30% of power usage, which equates to approximately 1,500 KW per month.* **References for the statistics from this section are available in Attachment 7 Technical Justification.*

c. Cost and Schedule

Grant funding requested under Proposition 84 for implementation of the GCSD/BOF (LS #16) Water Quality Protection Project is $ 600,000. We have completed our preliminary design and planning and nearly completed the permitting process. The cost of these efforts will be used as a funding match of $11,740.00. A partial funding match waiver to cover the remaining 25% required match by DWR is being requested for Disadvantaged Community Assistance, details on the requested waiver are included in Attachment 10.

2. Proposed Work

Project Description:
The Groveland Community Services District, Groveland, CA (GCSD) Sewer Lift Station (#16) adjacent to State Highway 120 at the west end of the Big Oak Flat Community is in serious need of reconstruction. This sewer lift station pumps an average of 10,000 gallons of sewage a day, 365 days per year via a 7,000'+ force main up a very steep grade to a gravity break over and into a 6" gravity sewer line, which goes to the District's Sewer Treatment Plant. This is the single most urgent capital improvement project in all of GCSD's service area. The current lift station was constructed in 1976 and needs to be reconstructed in order to dramatically reduce the potential of a sewage spill into the adjacent Rattlesnake Creek, which is tributary to Lake Don Pedro and the Tuolumne River. The objective of this project is to finish lift station planning and design and reconstruct this infrastructure using state-of-the-art equipment and materials. The lift station components will be compatible with equipment that the District already uses, allowing for parts to be interchangeable and operators to have a familiarity and knowledge of other existing similar equipment. It will also provide system redundancy and back-up pumping capability at the lift station. Should a pump at the reconstructed lift station fail or need to be removed or taken out of service for maintenance reasons, the second pump system would be put into action allowing operations to resume immediately.

The design of this lift station reconstruction will mirror in many ways existing lift station designs which are of high quality. This will allow us to keep reconstruction design costs down as similar lift stations already exist in other parts of the District. This will result in simplified construction drawings and specifications (utilizing existing specifications) for use in bidding of this reconstruction work.

The expected outcome of this project will be to provide a reconstructed lift station for the Big Oak Flat Community (Disadvantaged Community) that is reliable and will serve the needs of the community for many years to come.

The beneficiaries of this project will be: GCSD; the entire Big Oak Flat Community, which is a Disadvantaged Community based on median household income, all end users of Don Pedro Reservoir and the Tuolumne River for swimming, boating and drinking/irrigation water; the flora and fauna that live along the Rattlesnake Creek, etc.

GCSD will be partnering with the Tuolumne-Stanislaus IRWM and San Francisco Public Utilities Commission, Hetch-Hetchy Water and Power Division, to accomplish this project. As SFPUC is the landowner of the project site they will be directly involved with any required environmental documentation.

Goals and Objectives:
The goal of this project is to provide significant water quality protection for Rattlesnake Creek and Don Pedro Reservoir. This will be accomplished by completing planning and design work and reconstructing the sewer lift station in order to increase storage capacity by over 600% and provide significant additional response time in an emergency.

Purpose and Need:
By rebuilding this sewer lift station, the need to significantly increase storage capacity and response time for emergencies will be achieved. The GCSD District Engineer has determined that in the case of lift station failure exisiting storage capacity would be sufficient for 50 minutes, after which the raw sewage would begin spilling into Rattlesnake Creek. Due to the remote location of this lift station 50 minutes is not sufficient time to get a

vacuum truck to the site in the case of failure. Implementation of the proposed project will increase the storage capacity to over 600% of what currently exists, further extending response time to approximately 5 hours.

Integrated Elements of Projects:
Reconstructing GCSD's lift station address the common T-S IRWM objective of improving infrastructure to meet wastewater discharge/disposal requirements for DAC's. As such, this project intergrates with installation of Murphys Sanitary District spray field and expansion of Calaveras County Water District wastewater pond. They further complement each other and the other projects in this proposal on a regional basis by meeting Statewide Priorities of using and reusing water more efficiently and protecting surface and groundwater quality.

Completed Work:
Preliminary design and planning have been completed. GCSD has also nearly completed the environmental documentation process, which wil be a CEQA Categorically Exemption. As a Community Services District no additonal permits are required.

Existing Data and Studies:
The GCSD District Engineer has determined that in the case of lift station failure exisiting storage capacity would not be sufficient to prevent contamination of Rattlesnake Creek and Don Pedro Reservoir. The reconstruction of this sewer lift station is being done by two civil engineers. The first is the GCSD District Engineer and the other will be a sewer and water expert.

Project Map:
Figure 3-15

Project Timing and Phasing:
This is a one phase construction project with an anticipated start date of March 2014 and expect to be complete in June.

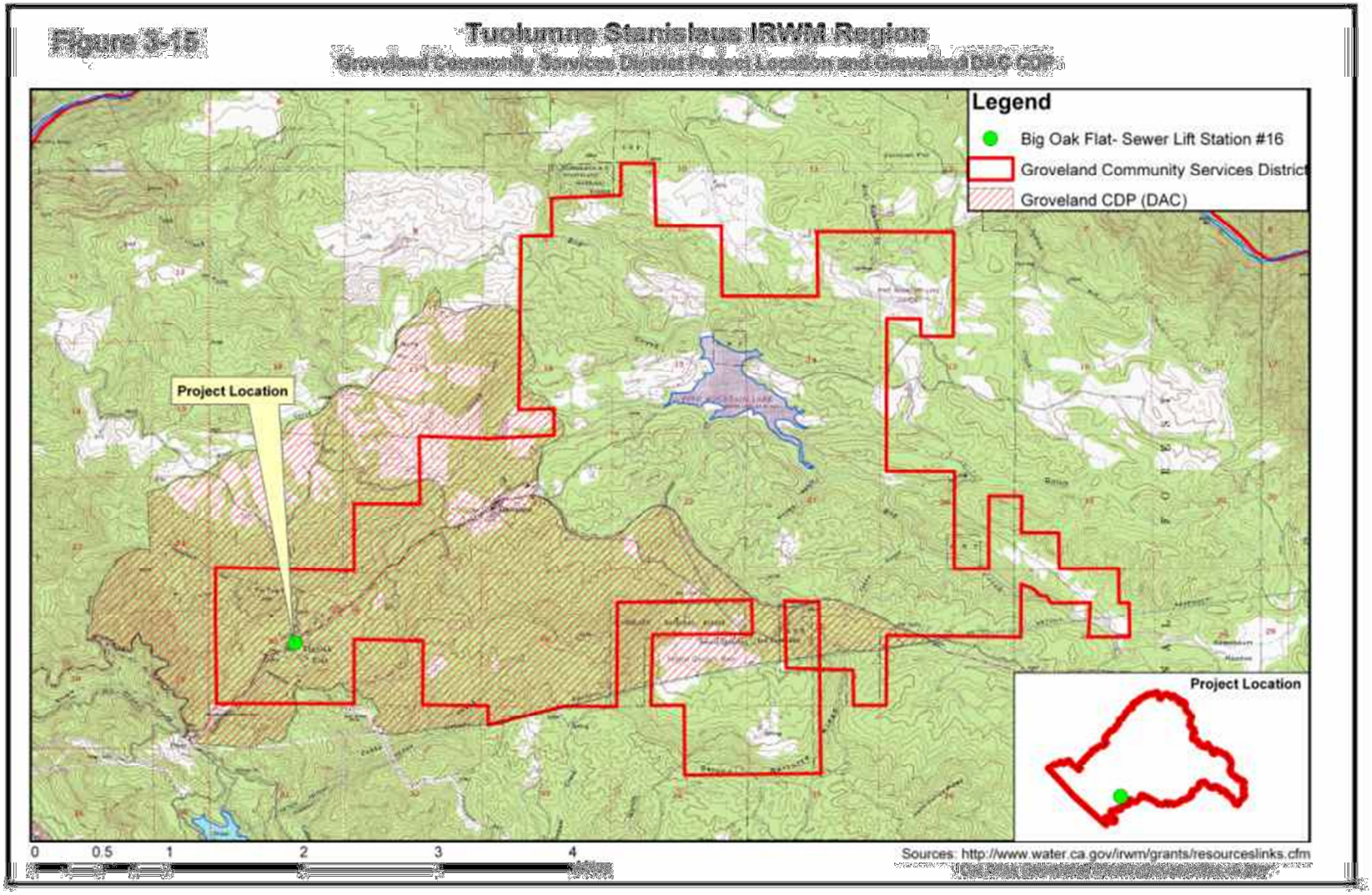
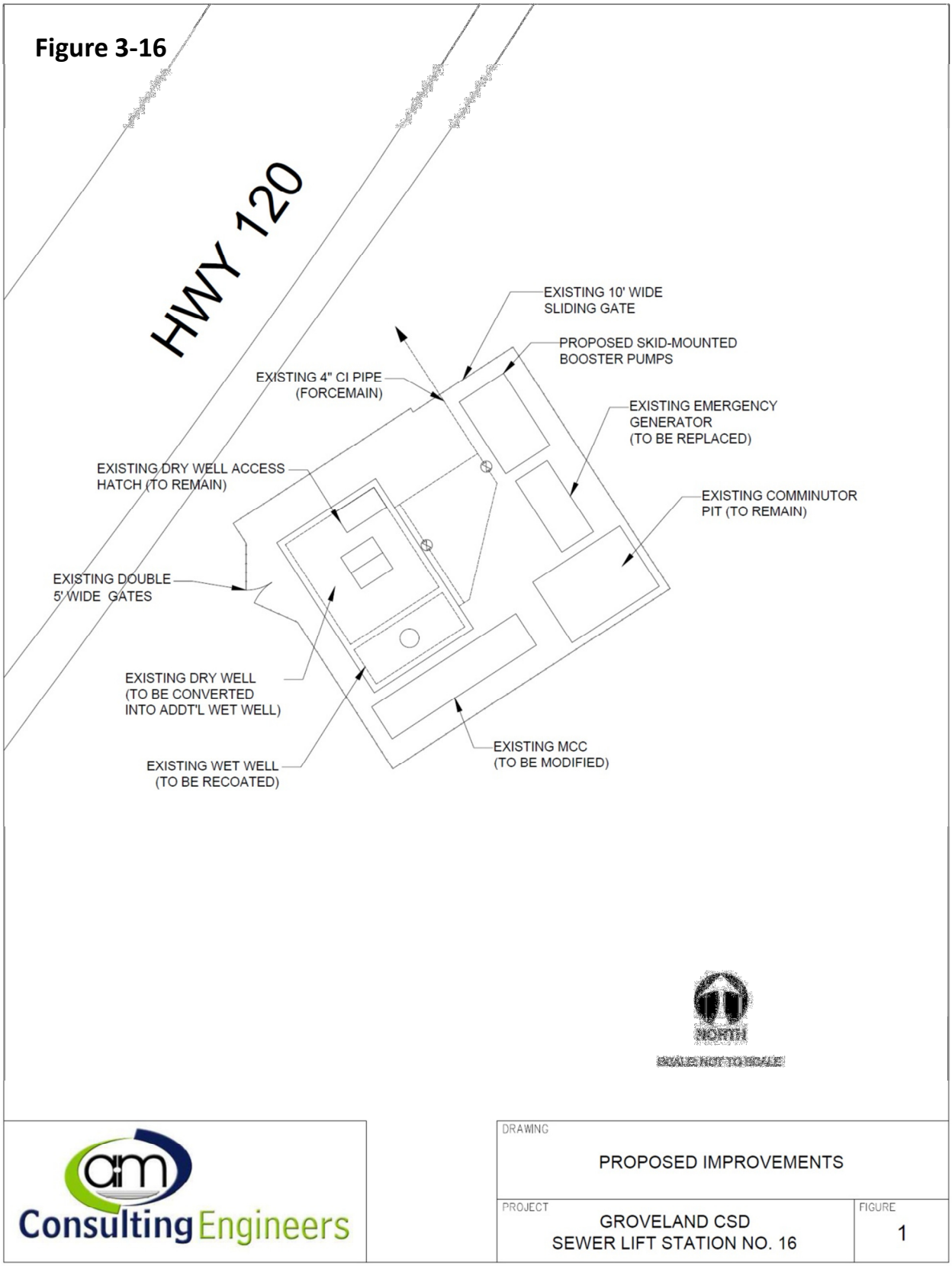


Figure 3-15
Tuolumne Stanislaus IRWM Region
Groveland Community Services District Project Location and Groveland DAC CDP
Legend
Big Oak Flat- Sewer Lift Station #16
Groveland Community Services District
Groveland CDP (DAC)
Project Location
Project Location
0
0.5
1
2
3
4
Sources: http://www.water.ca.gov/irwm/grants/resourceslinks.cfm

Figure 3-16


HWY 120
EXISTING 10' WIDE SLIDING GATE
PROPOSED SKID-MOUNTED BOOSTER PUMPS
EXISTING 4" CI PIPE (FORCEMAIN)
EXISTING EMERGENCY GENERATOR (TO BE REPLACED)
EXISTING DRY WELL ACCESS HATCH (TO REMAIN)
EXISTING COMMINUTOR PIT (TO REMAIN)
EXISTING DOUBLE 5' WIDE GATES
EXISTING DRY WELL (TO BE CONVERTED INTO ADDT'L WET WELL)
EXISTING MCC (TO BE MODIFIED)
EXISTING WET WELL (TO BE RECOATED)
NORTH
SCALE: NOT TO SCALE
Consulting Engineers
DRAWING
PROPOSED IMPROVEMENTS
PROJECT
GROVELAND CSD
SEWER LIFT STATION NO. 16
FIGURE
1

3. Work Plan Table

Tasks necessary to implement the GCSD/BOF (LS#16) Water Quality Protection Project are described in Table 1.

Table 1: Work Plan for GCSD/BOF (LS#16) Water Quality Protection Project

Budget Category (a): Direct Project Administration
Task 1: Administration **1.1 Project Tracking:** Day-to-day tracking of project construction and implementation. **1.2 Invoicing:** Prepare and submit invoices and all appropriate back up data as required. **1.3 Quality Control and Project Oversight:** Day-to-day oversight of the project progress and coordination with GCSD Board of Directors and Regional Grant Administrator. **1.4 Regional Grant Administration:** TCRCD will be providing overall regional grant administration services for all projects. Details of those are provided in the TCRCD work plan (Attachment 3). Costs for these services have been divided among the various projects based on the total cost of the project in accordance with DWR staff recommendations. Deliverables: Invoices.
Task 2: Labor Compliance Program Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b). GCSD follows this Code, by complying with the State of California, Department of Industrial Relations, UPCCAA process and has a Board Ordinance in place to do so. Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.
Task 3: Reporting Description: Prepare quarterly and final reports as specified in the Grant Agreement, including quarterly assessment and evaluations. Deliverables: Quarterly and final reports as specified in the Grant Agreement.
Budget Category (b): Land Purchase/Easement
Right-of-Way Acquisition Description: The Right-of-Way for this project already exists in the form of the existing sewer lift station 1, 085 sq. ft. footprint and no additional Right-of-Way or easements are necessary. Deliverables: N/A
Budget Category (c): Planning/Design/Engineering/Environmental Documentation
Task 4: Preliminary Design Description: Preliminary design and planning are completed and funds are not being requested in this Grant Application for these items. Deliverables: N/A
Task 5: Environmental Documentation Description: District Counsel is preparing a CEQA Categorical Exemption document for this project. Deliverables: CEQA Notice of Categorical Exemption Document
Task 6: Design Description: Project design is approximately 30% complete at this time. The design will be completed once a Grant is secured and design is expected to be completed between November 2013 and January 2014. Deliverables: Final Plans and Specifications for bidding.
Budget Category (d): Construction/Implementation
Task 7: Construction Contracting Description: Utilizing Final Plans and Specifications (which don't currently exist) this reconstruction project will be bid. Deliverables: Acceptable supplier and contractor bids.

Task 8: Construction
Description: Utilizing Final Plans and Specifications, reconstruct the sewer lift station within the existing facility footprint. Performance testing of the pumps is also required.
Deliverables: Signature page of construction contract; photographs of completed work; Performance test results.

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 9: Environmental Compliance/Mitigation/Enhancement
Description: Environmental Compliance will involve putting containment protection in place around the existing sewer lift station for protection as required/needed.
Deliverables: Photographs of containment installation

Budget Category (f): Construction Administration

Task 10: Construction Administration
Description: Ongoing oversight and management of the construction project will be performed by the District Engineer, District O&M Manager, and the Design Engineer.
Deliverables: Photographs of completed work

Budget Category (g): Other Costs or Activities

Task 11: Financing Costs
Description: GCSD anticipates financing the reconstruction project prior to reimbursement of costs. This task includes partial recovery of the bridge loan financing costs.
Deliverables: Finance documentation

Permitting
GCSD does not anticipate any permitting costs from other local, state or federal agencies.

Budget Category (h): Construction/Implementation Contingency

Task 12: Construction Contingency
Description: Contingency is based on approximately 12.6% of construction cost, and covers all unanticipated labor and material cost differences from the Engineers Estimate for Construction and construction administration duties.
Deliverables: Signature page of construction contract; photographs of completed work; Performance test results.

4. Other Required Information

Procedures
GCSD has entered into an MOU with 22 other entities for the IRWMP Process. GCSD is entering into a separate agreement with 7 entities as a part if this Grant Application with TCRCD being the lead Agency/Applicant. The TCRCD will act as overall grant administrator and manager for all eight project proponents. As such the TCRCD will have a strong leadership role in coordinating administrative functions with the other Agencies. The TCRCD will prepare a standard MOU for signature by the other grant participants that will be finalized once grant funding is secured (a draft is already in preparation).

Standards
The GCSD will follow all engineering and permitting standards and applicable state regulations.

Development of Monitoring Plan and Quality Assurance Project Plan
The nature of our project does not necessitate an elaborate or detailed monitoring system. Our construction project involves approximately four (4) months of construction, during which the construction administrator will perform standard construction quality oversight.

Status of Acquisition of Land or ROWs
The Right-of-Way for this project already exists in the form of the existing sewer lift station 1,085 sq. ft. footprint and no additional Right-of-Way or easements are necessary.

Building Materials, Project Design Status, and Bid Solicitation Efforts
This project is at the 30% design stage and design completion will only happen if the Grant being applied for is actually obtained (this is a DAC, therefore there are no resources to proceed any further without a Grant approval). Once Plans and Specifications are finalized, then bids will be solicited.

Status of Preparation and Completion of Environmental Requirements
District Counsel is preparing a CEQA Categorical Exemption document for this project.

Submittals to Granting Agency
Status reports, in the form requested by DWR, will be submitted on a quarterly basis. A final report will also be prepared once the project is completed. Other items required by the Grant contract will also be submitted to DWR.

Design Plans and Specifications
A preliminary design plan will be submitted at this time. Detailed plans and specifications will be developed upon receipt of grant funding. See Figure 3-16 above.